ATTACHMENT 1

Nebraska Department of Environmental Quality

For Official Use Only
NPDES NE_____
IIS _____

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Telephone: 402/471-4220 / Fax: 402/471-2909

Land Application Site Approval Form

Submission of this Land Application Site-Approval Form constitutes notice that this Industrial Facility intends to land apply effluent and requests site approval by NDEQ prior to that land application.

Any proposed land application site must be submitted and approved by NDEQ **prior** to the initial effluent application made after the effective issuance date of this NPDES permit. The permittee shall submit a *Land Applied Effluent Site Approval Form* to NDEQ for **each** application site unless the Department approves alternative arrangements. The applicant is then eligible to receive automatic approval provided the applicant indicates the required set backs are observed and indicates compliance with and understanding of the regulations and conditions contained in this NPDES permit. Sites that are currently used for land application of effluent also need initial approval under this reissued permit. The WWTF generating and applying the effluent needs to reference the NDEQ publication, *"Guidelines for Design and Operation of Irrigation With Treated Wastewater"* 1993 ed. when developing land application procedures.

1) Wastewater Provider Information
The following information shall be given to NDEQ **prior** to the land application of treated wastewater:

A) Wastewater Provider:

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone Number ( ) _____ E-mail: _____

B) Wastewater Provider Contact Information:

Name _____

Title: _____ (The Facility Contact must be either the Cognizant Official or the Authorized Representative listed on the Signatory Authorization Form. If there has been a change in personnel please contact NDEQ in order to update the Signatory Authorization Form.)

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone Number ( ) _____ E-mail: _____

ATTACHMENT 1

2) Land Application Site Information

A. Application Site Location: Provide Street Address or brief narrative of the facility location (NOT the mailing address)

_____

_____

Size of the application site (acres): _____

B. Legal Description of Application Site:

_____ Quarter of the _____ Quarter, Section _____, Township _____N, Range _____(E or W)_____County

C. Land Application Site Owner Information?

Name: _____

Title: _____ Telephone Number ( )_____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

D. Renter/Leaser Information:

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone Number ( )_____

E. Land Application (irrigation) system Operator Information

Name: _____

Title:_____ Telephone Number ( )_____

Mailing Address:_____

City:_____ State: _____ Zip Code:_____

F. Additional Nitrogen Sources

Are other sources of nitrogen applied to the site in addition to the treated effluent? Yes* No

*If Yes, please attach an agronomic analysis of the site.

G. Public Access

1. Type of Application Site?_____ Restricted Public Access or _____ Unrestricted Public Access*

(A restricted public use site is defined, as a site where public access is controlled and / or public exposure to treated effluent is highly unlikely. An unrestricted use site is defined, as a site where public access is not controlled and / or public exposure to treated effluent is likely.)

2. Will effluent be disinfected * & if so by what means?_____

_____

_____

* Note: Disinfection is required at sites with unrestricted public access.

ATTACHMENT 1

2) Land Application Site Information

H. Land Application Practices

1) What type of land application, (irrigation), will be used? (Check all that apply)

Center pivot _____ Gated pipe _____ Other (specifiy) _____

2) How will the wastewater be disposed of if conditions, (e.g. soil moisture, precipitation, frozen ground), preclude land application of treated effluent?

_____

_____

_____

H. Groundwater Information

1. How long has the site been used for the land application of effluent? _____ years _____ Months
2. What is the depth to ground water under this site? _____ feet
3. Are ground water monitoring wells present on the site? Yes No

3) Land Applied Effluent Checklist

Please circle the correct response and provide additional information as requested

A "No" answer to any of the 5 questions in this box disqualifies the site from automatic approval. If all questions are answered with a "Yes" and the certification statement is signed by either the Cognizant Official or the Authorized Representative, approval to land apply effluent originating from the municipal WWTF will be automatic 30 days after the receipt of this form. The municipal WWTF will NOT receive any communication from NDEQ regarding land application of effluent unless approval is denied or additional information is needed to make a final determination.

1) Will the effluent land application site be at least 500' from public drinking water supply wells and at least 100' from private drinking water wells? Yes No

2) Will the effluent land application site be at least 100' from areas accessible to the public including any inhabited dwellings? Yes No

3) Will 2 inches or less of treated effluent be applied per acre of land application site per week? Yes No

4) Will surface runoff from the land application site be prevented? Yes No

5) Does the wastewater receive treatment? Yes No

ATTACHMENT 1

4) Certification

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

I also certify that to the best of my knowledge and belief the _____ is in compliance with the regulations, conditions and provisions concerning the land application of effluent contained in NPDES permit number NE_____.

_____ _____

Signature* Date Signed

_____ _____

Printed Name Title

*Either the Cognizant Official *or* the Authorized Representative may sign the **Land Application Site Approval Form.**

ATTACHMENT 2

Nebraska Department of Environmental Quality

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Telephone: 402/471-4220 / Fax: 402/471-2909

CERTIFICATION OF ANNUAL LAND APPLICATION REPORT

A. Identification of Facility

Facility Name: _____ NPDES Permit NE**0113735**_____

Mailing Address:_____

City:_____ State:_____ Zip Code:_____

B. Agronomist that Prepared the Annual Report

Name of Agronomist:_____ Phone Number_____

Mailing Address:_____

City:_____ State:_____ Zip Code:_____

B. Certification of Annual Report

I certify that the _____ facility, located at

_____, Nebraska is in compliance with the requirements of the NPDES permit I also certify, under penalty of law, that the annual report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry, the information submitted is, to the best of my knowledge and belief; true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

_____ _____
Signature of Cognizant Official Date

_____ _____
Printed Name Title

ATTACHMENT 3

Nebraska Department of Environmental Quality

For internal use only
NPDES NE 0113735_____
IIS 9057_____

Wastewater Section
1200 'N' Street, Suite 400, The Atrium
PO Box 98922
Telephone: 402/471-4220 / Fax: 402/471-2909

Annual Biosolids Application Summary

If the land applied biosolids are from the same source and processed using the same method (s), only one representative biosolids sample may be used even if the biosolids are applied to more than one site. Monitoring results for biosolids metals shall be reported on the appropriate Discharge Monitoring Report, (DMR), and this form.

Please complete and retain a copy of this form with the permittee's copies of the 4th quarter DMRs unless otherwise specified. Please attach a copy of the laboratory report for the biosolids analysis. The land-applied biosolids must be monitored for pH, ammonia as N, nitrite as N, total nitrogen as N, and total solids. Since only 1 representative biosolids sample per site is required, only the maximum values need be reported.

1. Facility Name: _____

Mailing Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone Number: _____

METHODS OF BIOSOLIDS USE OR DISPOSAL

a) Biosolids are land applied **YES** **NO**
(If YES, complete the form)

b) Are the biosolids hauled to a waste treatment facility? **YES** **NO**
If "Yes" who is the hauler and to which WWTF are the biosolids taken?

_____

_____

_____

c) Are the biosolids placed in a landfill? **YES** **NO**
If YES, give the location of the landfill and the name of the hauler:

_____

_____

_____

d) If the biosolids are NEITHER hauled to another WWTF or placed in a landfill, skip to number 6 (Certification)

ATTACHMENT 3

ANNUAL BIOSOLIDS APPLICATION SUMMARY FORM

3. Annual Biosolids Summary Data:

			Legal Description of Application Site				
Field Number	**Acres Available**	**Biosolids Applied (Tons)**	**County**	**Quarter**	**Section**	**Township**	**Range**

Biosolids Monitoring

Facility Name: _____

Sample Date: _____

The permittee shall monitor biosolids as specified. A representative sample shall be collected for analysis prior to land application. A representative sample is defined as a sample that is a composite of several biosolids samples within the same batch.

Table 1: Biosolids Monitoring Requirements

Parameters	Storet #	Units	Biosolids Reporting	Measurement Frequency	Sample Type
pH	00400	S.U.	Report [a]	Annually	Grab
Ammonia (N)	82294	mg/kg	Report [a]	Annually	Grab
Nitrate (N)	61539	mg/kg	Report [a]	Annually	Grab
Total Nitrogen	78470	mg/kg	Report [a]	Annually	Grab
Total Solids	78477	mg/kg	Report [a]	Annually	Grab

Footnote:

a) The limit for these parameters is defined as the agronomic rate. Attach a copy of the "*Calculation Worksheet for Calculating the Agronomic Rate for the Land Application of Biosolids*"

Abbreviations: mg/L – milligrams per liter; S.U. – Standard Units.

ATTACHMENT 3

5. Ground Water / Monitoring Wells

Please attach any ground water monitoring data that may be required or available.

6. Certification

I certify that the _____ facility, located in _____, NE is in compliance with the Federal regulations contained in 40 CFR 257 as they pertain to the disposal, use and handling of biosolids from am industrial WWTF.

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature of Cognizant Official *or* the Authorized Representative — Date Signed

_____ _____

Printed Name — Title

Qualifications and Responsibilities of the "Cognizant Official" and the "Authorized Representative"
The qualifications and responsibilities of the "cognizant official" are set forth in NDEQ Title 119 Chapter 13.002:

002.01 - For a corporation by a responsible corporate officer;

002.02 - For a partnership or sole proprietorship by a general partner or proprietor; and

002.03 - For a municipal, State, Federal or other public facility by either a principal executive officer or ranking elected official."

The qualifications and responsibilities for the "authorized representative" are set forth in NDEQ Title 119 Chapter 13.003:

"All other correspondence, reports and DMR's shall be signed by a person designated in 002.01 through 002.03 or a duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates; the authorization is made in writing by the person designated under 002.01 through 002.03 above; and the written authorization is submitted to the Director."

The authorized representative may also sign REM-NOIs, if the Cognizant Official has specifically authorized them to perform this task in a previous REM-NOI or in other written documentation as set forth in permit Part II. B. 4.

ATTACHMENT 4

NPDES Number	NE0113735
For Department Use	
ID Number	70851
Date Received	

Nebraska Department of Environmental Quality

Wastewater Section·1200 'N' Street, Suite 400 The Atrium·PO Box 98922·Lincoln, NE 68509-8922·Tel. 402/471-4220

Worksheet for Calculating the Agronomic Rate
For the Land Application of Wastewater Biosolids

Site: _____

Facility: _____

Procedure: A procedure used to calculate the agronomic rate for application of process wastewater biosolids at which the nitrogen supplied by the biosolids and available to the plants does not exceed the requirement for nitrogen of the crop or vegetation. To calculate the agronomic rate, the available ammonium nitrogen (NH_4-N_{avail}), nitrate nitrogen (NO_3-N_{avail}), organic nitrogen (Org-N_{avail}), must all be determined in order to calculate the total available nitrogen (TN_{avail}) in the biosolids. The nitrogen needed (N_{needed}) by the crop is calculated based on the crop selected, expected yield, soil type, previous crop residual, and nitrate nitrogen retained in the soil. The amount of nitrogen needed by the crop:

(N_{needed}) is divided by the total nitrogen available (TN_{avail}) to find the annual loading rate

Step 1: From the analysis of the process wastewater biosolids to be land applied, determine the amount of each nitrogen compound, based on dry weight, in pounds per ton, (lbs / ton).

Nitrogen Compound	Concentration of Nitrogen Compounds (mg / Kg)	Conversion	Current Amount of N in Biosolids (pounds per ton of biosolids)
Total Kjeldahl Nitrogen (TKN-N)		**x 0.002 =**	
Ammonium Nitrogen (NH_4-N)		**x 0.002 =**	
Nitrate Nitrogen (NO_3-N)		**x 0.002 =**	
Organic Nitrogen (Org-N)	TKN – NH_4 – NO_3	=	

Step 2: Calculate the amount of ammonium-nitrogen available in the process wastewater biosolids to be applied. Assume that the available fraction (K_v) is dependent upon operations at the site (see Table A1). Use the following equation:

$$NH_4\text{-}N_{available} = NH_4\text{-}N \times K_V$$

Where:

NH_4-N = is the amount of ammonium nitrogen in the process wastewater biosolids to be land applied, Lb/ton.

K_V = is a volatilization factor for determining the availability of ammonium nitrogen based on how the wastewater biosolids are applied.

ATTACHMENT 4

Worksheet for Calculating the Agronomic Rate
For the Land Application of Wastewater Biosolids

Table A1. Factors for K_V	
If Process Wastewater Biosolids are	Factor K_V is:
Liquid and Surface Applied	0.50
Liquid and Incorporated into the Soil	1.0
Dewatered and Applied in Any Manner	1.0

$NH_4\text{-}N_{available}$ = _____ lbs/ton x _____ = _____ lbs/ton
(From Step 1) K_V

Step 3: Calculate the amount of organic nitrogen available in the process wastewater biosolids to be applied. The Factor F, used for determining the amount of Org-N present due to mineralization, is provided below in Table A2. The value of F is dependent upon how the biosolids are treated (i.e., aerobic digestion, composted, etc.).

Step 4: Current Available Organic Nitrogen, Current $Org\text{-}N_{available}$. Current available organic nitrogen from this year's biosolids is determined by the following equation:

Current $Org\text{-}N_{available}$ = Org-N (from Step 1) x F

Where, Current $Org\text{-}N_{available}$ = the nitrogen which will be available this year from this year's biosolids.

Org-N = the organic nitrogen in the process wastewater biosolids to be land applied, lbs/ton

F = is the mineralization rate from Table A2

Current $Org\text{-}N_{available}$ = _____ lbs/ton X _____ = _____ lbs/ton
From Step 1 F

Table A2. F Values				
Time After Biosolids Application (Year)	Stabilized Primary and Activated Wastewater Biosolids Fraction of Org-N	Aerobically Digested Wastewater Biosolids Fraction of Org-N	Anaerobically Digested Wastewater Biosolids Fraction of Org-N	Composted Wastewater Biosolids Fraction of Org-N
0-1	0.40	0.30	0.20	0.10

Step 5: Total available nitrogen in the biosolids is then determined by adding together the resulting totals from Steps 2 and 3 to the amount of NO_3-N in Step 1 (Assuming 100% of NO_3-N is available). The result is the following equation:

Total Nitrogen Available (TN_{avail}) = $NO_3\text{-}N + NH_4N_{avail}$ + Current $Org\text{-}N_{avail}$

TN_{avail} = _____ lbs/ton + _____ lbs/ton + _____ lbs/ton
Step 1 Step 2 Step 3

TN_{avail} = _____ lbs/ton of dry biosolids

EXAMPLE **ATTACHMENT 4**

Worksheet for Calculating the Agronomic Rate
For the Land Application of Wastewater Biosolids

Site: EXAMPLE (Please refer to lab report)

Facility: _____

Procedure: A procedure used to calculate the agronomic rate for application of process wastewater biosolids at which the nitrogen supplied by the biosolids and available to the plants does not exceed the requirement for nitrogen of the crop or vegetation. To calculate the agronomic rate, the available ammonium nitrogen (NH_4-N_{avail}), nitrate nitrogen (NO_3-N_{avail}), organic nitrogen (Org-N_{avail}), must all be determined in order to calculate the total available nitrogen (TN_{avail}) in the biosolids. The nitrogen needed (N_{needed}) by the crop is calculated based on the crop selected, expected yield, soil type, previous crop residual, and nitrate nitrogen retained in the soil. The amount of nitrogen needed by the crop:

(N_{needed}) is divided by the total nitrogen available (TN_{avail}) to find the annual loading rate

Step 1: From the analysis of the process wastewater biosolids to be land applied, determine the amount of each nitrogen compound, based on dry weight, in pounds per ton, (lbs / ton).

Nitrogen Compounds	Concentration of Nitrogen Compounds (mg/Kg)	Conversion	Current Amount of N in Biosolids (pounds per dry ton of biosolids)
Total Kjeldahl Nitrogen (TKN-N)	22,500	**x 0.002 =**	45.0
Ammonium Nitrogen (NH_4-N)	4,400	**x 0.002 =**	8.8
Nitrate Nitrogen (NO_3-N)	3.76	**x 0.002 =**	0.008
Organic Nitrogen (Org-N)	TKN – NH_4 – NO_3	=	36.192 lbs/ton

Step 2: Calculate the amount of ammonium-nitrogen available in the process wastewater biosolids to be applied. Assume that the available fraction (K_v) is dependent upon operations at the site (see Table A1). Use the following equation:

$$NH_4\text{-}N_{available} = NH_4\text{-}N \times K_V$$

Where:

NH_4-N = is the amount of ammonium nitrogen in the process wastewater biosolids to be land applied, Lb/ton.

K_V = is a volatilization factor for determining the availability of ammonium nitrogen based on how the wastewater biosolids are applied.

EXAMPLE **ATTACHMENT 4**

Table A1. Factors for K_V	
If Process Wastewater Biosolids are	Factor K_V is:
Liquid and Surface Applied	0.50
Liquid and Incorporated into the Soil	1.0
Dewatered and Applied in Any Manner	1.0

$NH_4\text{-}N_{available}$ = 8.8 (From Step 1) lbs/ton x 0.50 (K_V) = 4.4 lbs/ton

Step 3: Calculate the amount of organic nitrogen available in the process wastewater biosolids to be applied. The Factor F, used for determining the amount of Org-N present due to mineralization, is provided below in Table A2. The value of F is dependent upon how the biosolids are treated (i.e., aerobic digestion, composted, etc.).

Step 4: Current Available Organic Nitrogen, Current $Org\text{-}N_{available}$. Current available organic nitrogen from this year's biosolids is determined by the following equation:

$Current\ Org\text{-}N_{available}$ = Org-N (from Step 1) x F

Where, $Current\ Org\text{-}N_{available}$ = the nitrogen which will be available this year from this year's biosolids.

Org-N = the organic nitrogen in the process wastewater biosolids to be land applied, lbs/ton

F = is the mineralization rate from Table A2

$Current\ Org\text{-}N_{available}$ = 36.192 (From Step 1) lbs/ton x 0.30 (F) = 10.858 lbs/ton

Table A2. F Values				
Time After Biosolids Application (Year)	Stabilized Primary and Activated Wastewater Biosolids Fraction of Org-N	Aerobically Digested Wastewater Biosolids Fraction of Org-N	Anaerobically Digested Wastewater Biosolids Fraction of Org-N	Composted Wastewater Biosolids, Fraction of Org-N
0-1	0.40	0.30	0.20	0.10

Step 5: Total available nitrogen in the biosolids is then determined by adding together the resulting totals from Steps 2 and 3 to the amount of $NO_3\text{-}N$ in Step 1 (Assuming 100% of $NO_3\text{-}N$ is available). The result is the following equation:

Total Nitrogen Available (TN_{avail}) = $NO_3\text{-}N + NH_4N_{avail}$ + $Current\ Org\text{-}N_{avail}$

TN_{avail} = 0.008 (Step 1) lbs/ton + 4.4 (Step 2) lbs/ton + 10.858 (Step 3) lbs/ton

TN_{avail} = 15.266 lbs/ton of dry biosolids

Step 6: How much nitrogen is in a wet ton of biosolids?

From the lab analysis the amount of solids in the biosolids is 33.6%. Convert this to a decimal - 33.6% = 0.336. The total amount of nitrogen available is 15.266 lbs / dry ton. This number comes from Step 5. To calculate the amount of nitrogen in a wet ton, multiply the amount of nitrogen available with the % solids in the biosolids. In this example: 15.266 x 0.336 = **5.129 lbs of N / wet ton**.

EXAMPLE **ATTACHMENT 4**

Worksheet for Calculating the Agronomic Rate
For the Land Application of Wastewater Biosolids

Laboratory Report

Biosolids Analysis

% Solids = 33.6

Analysis Performed	Level Found As Received	Recovery Dry Weight Basis	RSD	SP Sample	SP Blank
Total Kjeldahl Nitrogen	7,550.00 ppm	22,500.00 ppm	3.0%	102%	103%
Ammonia Nitrogen	1,470.00 ppm	4,400.00 ppm	4.0%	93%	93%
Nitrate Nitrogen	1.26 ppm	3.76 ppm	0.0%	103%	101%

Note: ppm (parts per million) is equal to mg/kg

Agronomic Rate

How much wet biosolids can I apply per acre?

The following method may be used to determine the amount of wet biosolids that can be applied per acre of a given crop.

First there are several pieces of information you will need. in order to determine the amount of wet biosolids you may apply. From the analysis of the wastewater biosolids to be land applied, determine the amount of each nitrogen compound, based on dry weight, in pounds per ton, (lbs / ton).

a. What is the crop and how many bushels per acre are you expecting?
b. How much nitrogen per acre does the crop need? (You can get this information through you County Ag Extension Agent)
c. How much nitrogen is in the soil? (Also called residual nitrogen)
d. How much nitrogen is in a ton of the wet biosolids?

In this example the crop will be corn and we expect a yield of 180 bushels per acre.
The Extension Agent tells us that the crop will use 250 lbs of N per acre. A soil test reveals that there is already 50 lbs of N in the soil. The corn crop will need 200 lbs per acre of additional N (Amount N needed minus Amount N in soil, in this example 250 - 50 = 200).
From Step 6 in the Worksheet for Calculating Agronomic Rate for the Land Application of Wastewater Biosolids we know that in this batch of biosolids there is 5.129 lbs of N per wet ton. To determine how much biosolids can be applied, divide the amount of nitrogen needed after subtracting the amount of N in the soil, (here 200 lbs / acre), by the amount of nitrogen per pound of wet biosolids:

200 Lbs N/acre ÷ 5.129 lbs N/ton = 39 wet tons of biosolids

The amount of wet biosolids that can be applied per acre for this crop is 39 wet tons. If other sources of nitrogen are used these must be accounted for and subtracted from the total nitrogen needed.

Attachment D

Attachment D

M.G. Waldbaum Co.

Wakefield, NE

Proposal to Land Apply Clarifier Rinsate

Submitted for the Facility on August 30, 2006 by:

ESI
ENVIRONMENTAL SCIENCES, INC.
Environmental Sciences, Inc.
PO Box 6746 - Lincoln, NE 68506-0746
402-423-9696

TABLE OF CONTENTS

M.G. Waldbaum Company
Proposal to Land-Apply Clarifier Rinsate

M.G. Waldbaum Company operates an egg-processing facility in Wakefield, Nebraska. In the production of hard-boiled eggs, water that has been used to remove shells from the eggs is clarified before going to wastewater treatment lagoons. This generates a "clarifier rinsate," which is water with 10-15% solids content (egg shells and egg meat).

M.G. Waldbaum produces clarifier rinsate at a rate of 6,600 pounds per production day. When the rinsate is produced, it is somewhat cloudy and contains small suspended particles. The material is initially odorless, but it becomes somewhat odiferous as the nutrients begin to break down. A recent nutrient analysis of the clarifier rinsate is included with this proposal.

M.G. Waldbaum anticipates land-applying clarifier rinsate on crop ground that is appropriate to grow corn, soybeans, alfalfa and cool season grasses. Clarifier rinsate will be delivered to land-application sites via sealed tank, and applied using a liquid manure applicator (pull type or self propelled). Measures will be taken to prevent run-off of the material, and application will be according to the following setbacks:

Distance to public water supply:	1,000 feet
Distance to potable water supply:	300 feet
Distance to inhabited dwelling:	300 feet
Distance to waters of the state, including wetlands:	200 feet
Distance to public right-of-way	30 feet

Before applying the clarifier rinsate to crops, soil tests will be conducted at the particular application site to determine whether the material can be land-applied and the appropriate application rate. Records will be maintained as to the locations where clarifier rinsate was applied, amounts applied, application rates, crop and soil conditions, and any concerns or problems encountered.

This proposal involves nine sites for land-application of clarifier rinsate. If other sites are identified for receiving this material, M.G. Waldbaum will submit site information (in the same format used for the initial nine sites) to the NDEQ at least 45 days prior to land-application.

For more information on the proposed land-application of the clarifier rinsate, please see the Clarifier Application Information for the initial nine sites.

The contact persons for M.G. Waldbaum are:

Charles Bailey, Vice President of Operations
Suite 400
301 Carlson Parkway
Minnetonka, MN 55305
Telephone: 952-258-4000

Paul Saunders, Plant Manager
M.G. Waldbaum Company
105 North Main Street
Wakefield, NE 68784
Telephone: 402-287-5030

WARD
Laboratories, Inc.

Ag Testing - Consulting

Account No. : 11297

Slurry Analysis Report

SAUNDERS, PAUL
MILTON G WALDBAUM CO (PLANT)
PO BOX 573
WAKEFIELD NE 68784-0573

Invoice No. : 1003090
Date Received : 08/10/2006
Date Reported : 08/11/2006

Lab No. : 1051

Results For : MILTON G WALDBAUM CO (PLANT)
Sample ID : 8-9-06
CLARIFIER SLUDGE

				Available First Year	
	Analysis As Received	Lbs per Acre Inch	Lbs per 1000 gal	Lbs per Acre Inch	Lbs per 1000 gal
Organic N ppm N	6996.2	1585.8	58.7	555.0	20.6
Ammonium, ppm N	19.9	4.5	0.2	4.3	0.2
Nitrate, ppm N	0.9	0.2	0.0	0.2	0.0
Total N (TKN) ppm N	7017.0	1590.5	58.9	559.5	20.7
Phosphorus ppm P_2O_5	2809.6	636.9	23.6	445.8	16.5
Potassium ppm K_2O	72.9	16.5	0.6	14.9	0.6
Sulfur, ppm S	619.5	140.4	5.2	56.2	2.1
Calcium, ppm Ca	2096.7	475.3	17.6	332.7	12.3
Magnesium, ppm Mg	47.5	10.8	0.4	7.5	0.3
Sodium ppm Na	338.7	76.8	2.8	76.8	2.8
Sodium Adsorption Ratio (SAR)	2.82				
Zinc, ppm Zn	8.7	2.0	0.1	1.4	0.1
Iron, ppm Fe	12.1	2.7	0.1	1.9	0.1
Manganese ppm Mn	1.4	0.3	0.0	0.2	0.0
Copper ppm Cu	0.6	0.1	0.0	0.1	0.0
Chloride, ppm Cl	193.9	44	1.6	44	1.6
Soluble Salts, mmho / cm	1.45	197.2	7.3	197.2	7.3
pH	7.0				
Dry Matter %	14.65				
BOD (5-Day) mg / L	9284				
Total Suspended Solids mg / L	110094				

Specific Gravity is 8.41 pounds per gallon.

Reviewed By : Raymond Ward 8/17/2006 Copy : 1 Page 1 of 1

Bus: 308 234 2418 web site 4007 Cherry Ave P.O. Box 788
Fax: 308 234 1940 www.wardlab.com Kearney, Nebraska 68848-0788

M.G. Waldbaum Company
Clarifier Rinsate Application Information

Anticipated Nitrogen Loading Rates:

	Clarifier Rinsate	Clarifier Rinsate	Clarifier Rinsate	Clarifier Rinsate
Maximum Application rate (gals/ac/year)*	8,000	10,250	10,600	2,500
Type of Crop or Cover, Yield Goal	Soybeans, 45 Bu	Corn, 160 Bu	Alfalfa 4 ton	Cool season grasses 1.5 ton
Anticipated Nitrogen Uptake of the Crop (lbs N/acre/year)	167	213**	220	53
Nitrogen Loading from clarifier rinsate application (lbs N/acre/year)	52	52	52	52
Nitrogen Loading from commercial fertilizer applications (lbs N/acre/year)	115	162	168	0
Total Nitrogen loading to site (lbs N/acre/year)	167	213	220	52
Are the anticipated crop uptakes rates for Nitrogen being exceeded?	No	No	No	No

* = Maximum application volume (inches/acre) is based on Nitrogen content (lbs TN/1000gals) of clarifier rinsate.
**= Is calculated using a fertilizer recommendation rate of 1.33 lbs nitrogen / Bu of corn.

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 1

Land Owner(s)

Tim Beebe
1008 Winter Street
Wakefield, NE 68784
(402) 287-2719

Legal Description

NE ¼ Sec.28 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
1000 ft.	Silt Loam Silty Clay Loam	0-3 %	154	21-44 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Current Crop or vegetation being grown and agricultural practices utilized.

This application site is planted to soybeans in 2006 and will be planted to corn in 2007. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using an alfalfa, corn and soybean rotation.

Fertilizer applied for the crop year.

The application site is currently planted to soybeans and has received the appropriate fertilizer to maximize yield. The corn crop planned for 2007 will receive a nitrogen credit of 1 lbs nitrogen/Bu of grain harvested per acre, which will be included in determing the appropriate application rate of clarifier rinsate. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 1

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silt Loam	Granular	Well Drained	None	Corn	5

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 1 is low.

Irrigation Method and Management

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 1 reveals the Sodium Adsorption Ratio (SAR) for the site is 2.9 (from a previous soil test), suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for corn to be raised is 213 lbs N for a yield goal of 160 Bu/ac. Therefore the facility would be able to apply up to 10,250 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 3,400 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 160 Bu/ac of Corn		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	10,250	3,400	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and TIMOTHY BERGE, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

¼ or ½		Section	Township	Range			Irrigated or Dryland Acres
NE 1/4	of	28,	27 N,	5	(E) or W)	DIXON Co.	154
	of	,	N,		(E or W)	Co.	
	of	,	N,		(E or W)	Co.	
	of	,	N,		(E or W)	Co.	
	of	,	N,		(E or W)	Co.	
	of	,	N,		(E or W)	Co.	

Total **irrigated** crop acres for clarifier rinsate application is _____ acres.

Total **dryland** crop acres for clarifier rinsate application is 154 acres.

[redacted]

4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 15th day of AUGUST 2006

Official of Production Facility

Landowner: [redacted]

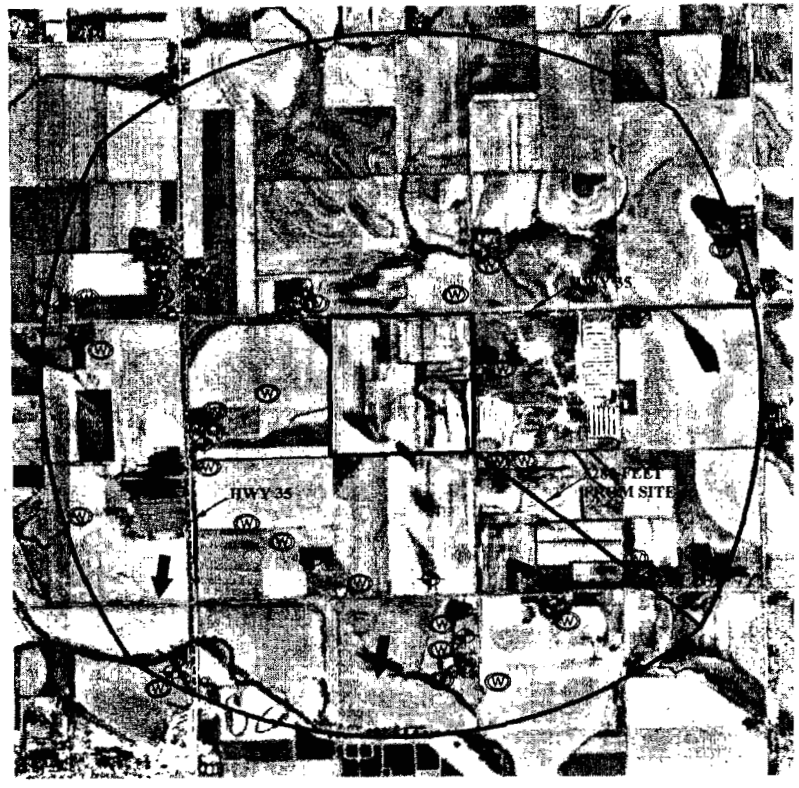
Address: _____

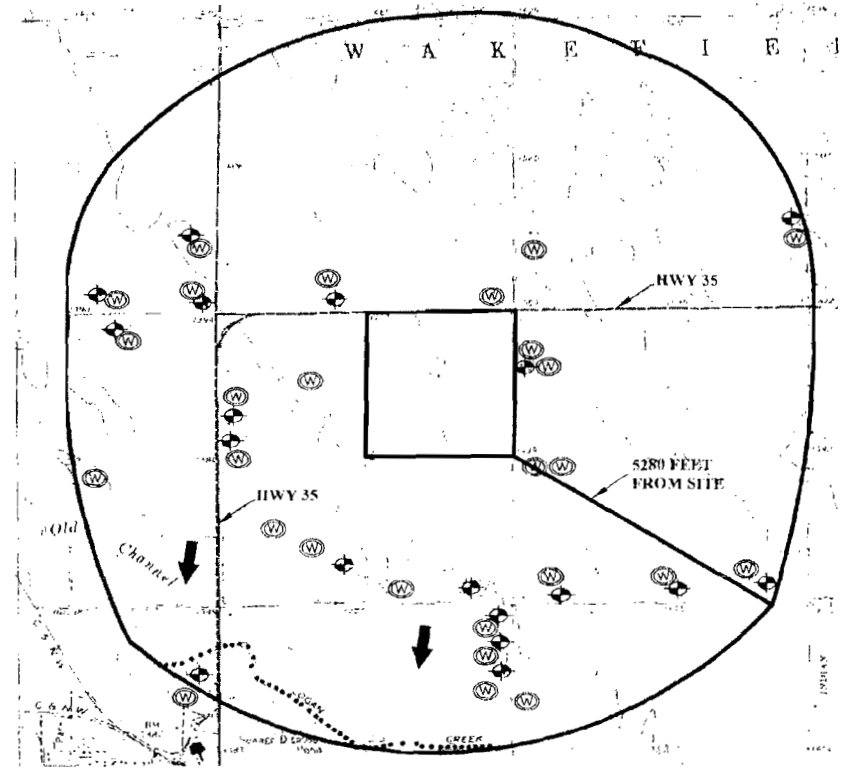
Phone: _____

Landowner: _____

Address: _____

Phone: _____





2000' 0' 2000'
SCALE

LEGEND
- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

2000' 0' 2000'
SCALE

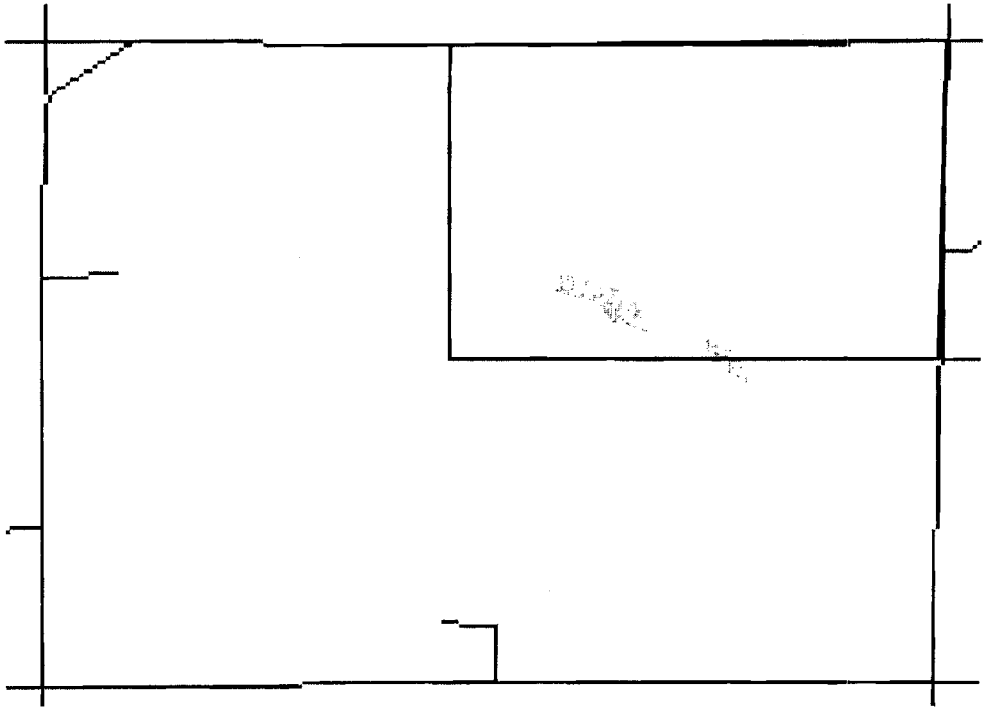
OWNER: TIM BEBEE

LEGAL DESCRIPTION: NE ¼ SEC. 28 T27N R5E DIXON COUNTY

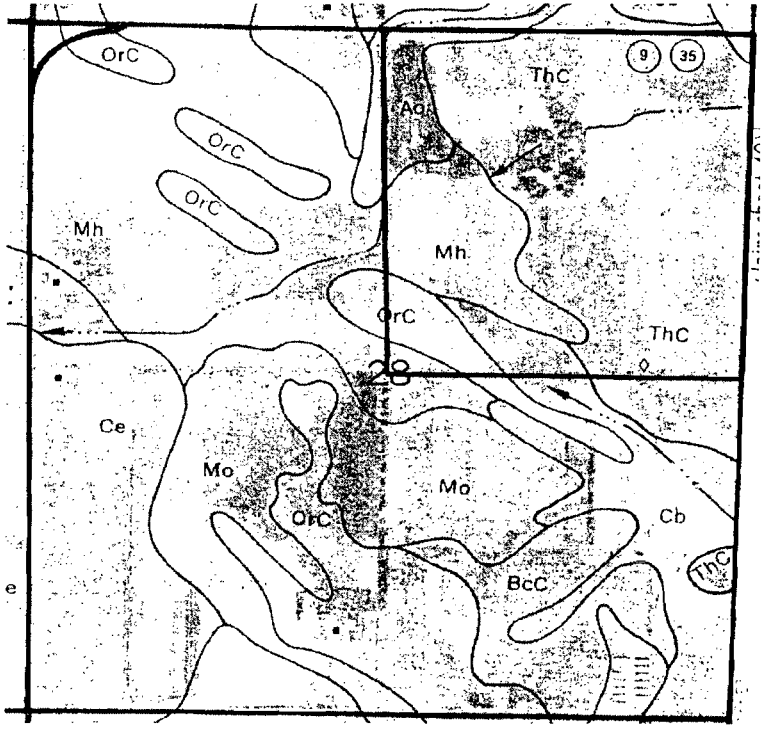
SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-'' - 1988

FACILITY: M.G. Waldbaum
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: KH CHECKED BY: KD
SHEET NUMBER: DATE:
DESCRIPTION:
AERIAL AND TOPOGRAPHIC MAPS

ES



SOURCE - NATIONAL WETLAND INVENTORY



DIXON COUNTY SOIL SURVEY:

SOIL LEGEND

SYMBOL	NAME
ThC	THURMAN LOAMY SAND, 2 TO 6 PERCENT SLOPE
Mh	MASKELL LOAM, 0 TO 2 PERCENT SLOPE
OrC	ORTELLO SANDY LOAM, 2 TO 6 PERCENT SLOPE
Ao	AOWA SILT LOAM, 0 TO 2 PERCENT SLOPES

OWNER TIM BLEET

LEGAL DESCRIPTION NE ¼ SEC. 28 T27N R5E DIXON COUNTY

SOURCE TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

FACILITY: M G Waanddaam Co.
Dixon County Nebraska

SCALE: AS SHOWN
DRAWN BY: KB CHECKED BY: KB
SHEET NUMBER DATE
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS

ES

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 2

Land Owner(s)

Dwain Ekberg
Rural Route 1 Box 145
Wakefield, NE 68784
(402) 287-2653

Legal Description

SW ¼ Sec 25 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
0 ft.	Loamy Sand	6-11 %	160	40-55 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Current crop or vegetation to be grown and agricultural practices utilized.

This application site will be planted to soybeans and alfalfa. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn - soybean rotation and alternating the implementation of alfalfa.

Fertilizer applied for the 2007 crop year.

The north one-third of the application site has been alfalfa the last three years and will receive a nitrogen credit of 100 lbs/ac for the cropping history, which will be included in determing the appropriate application rate of clarifier rinsate. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 2

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Loamy Sand	Granular	Well Drained	None	Soybeans Alfalfa	6 3

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 2 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 2 reveals the Sodium Adsorption Ratio (SAR) for the site is 2.9 (from a previous soil test), suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for soybeans to be raised is 167 lbs N for a yield goal of 45 Bu/ac. Therefore the facility would be able to apply up to 8,000 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 2,100 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 45 Bu/ac of Soybeans		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	8,000	2,100	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and DWAIN EKBERG, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

SW 1/4	25	27	5	(E) or W)	DIXON	Co.	Irrigated or Dryland Acres 160
¼ or ½	Section	Township N,	Range				
¼ or ½	Section	Township N,	Range	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½	Section	Township N,	Range	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½	Section	Township N,	Range	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½	Section	Township N,	Range	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½	Section	Township N,	Range	(E or W)		Co.	Irrigated or Dryland Acres

Total **irrigated** crop acres for clarifier rinsate application is _____ acres.

Total **dryland** crop acres for clarifier rinsate application is 160 acres.

[redacted]

4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 27 day of AUGUST 2006

[redacted]
Official of Production Facility

Landowner: [redacted]

Address: 58540 859TH ROAD
WAKEFIELD, NE 68784

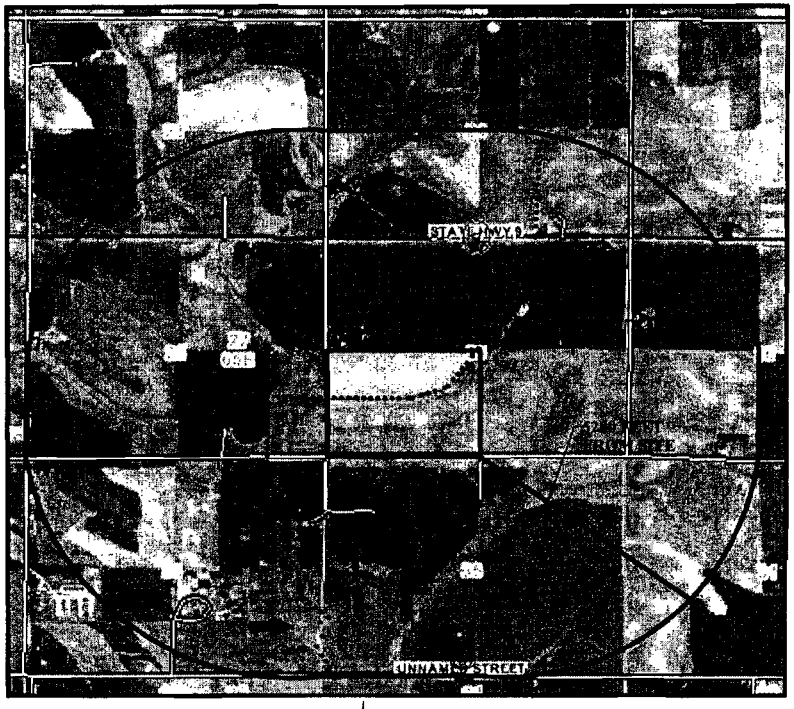
Phone: 402-287-2653

Landowner: _____

Address: _____

_____

Phone: _____



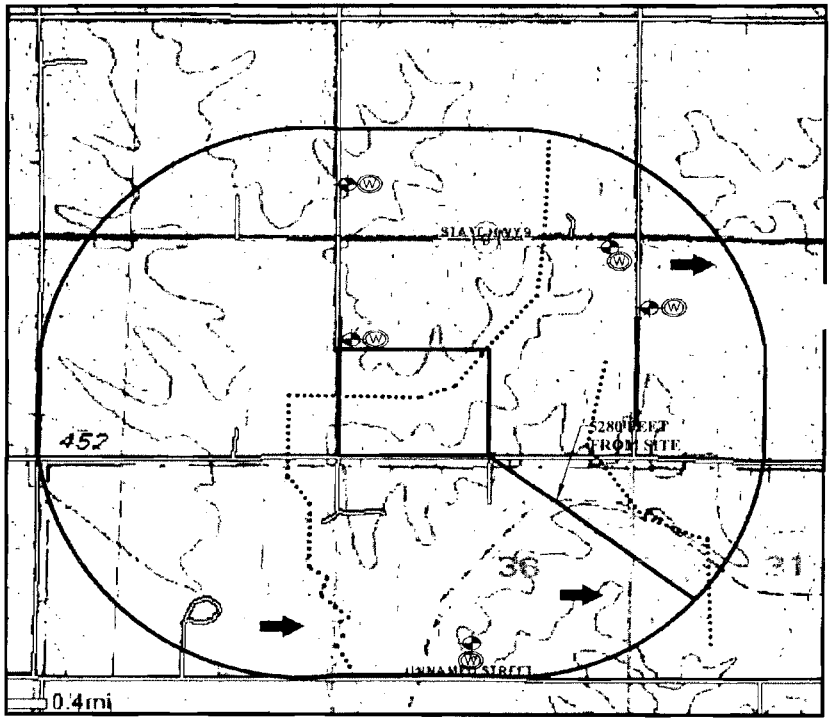
2350' 0' 2350'

SCALE

OWNER DWAIN EKBERG

LEGAL DESCRIPTION: SW ¼ SEC. 25 T27N R5E DIXON COUNTY

SOURCE TERRASERVER USGS AERIAL MAP DATED 4-16-1993



SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

2350' 0' 2350'

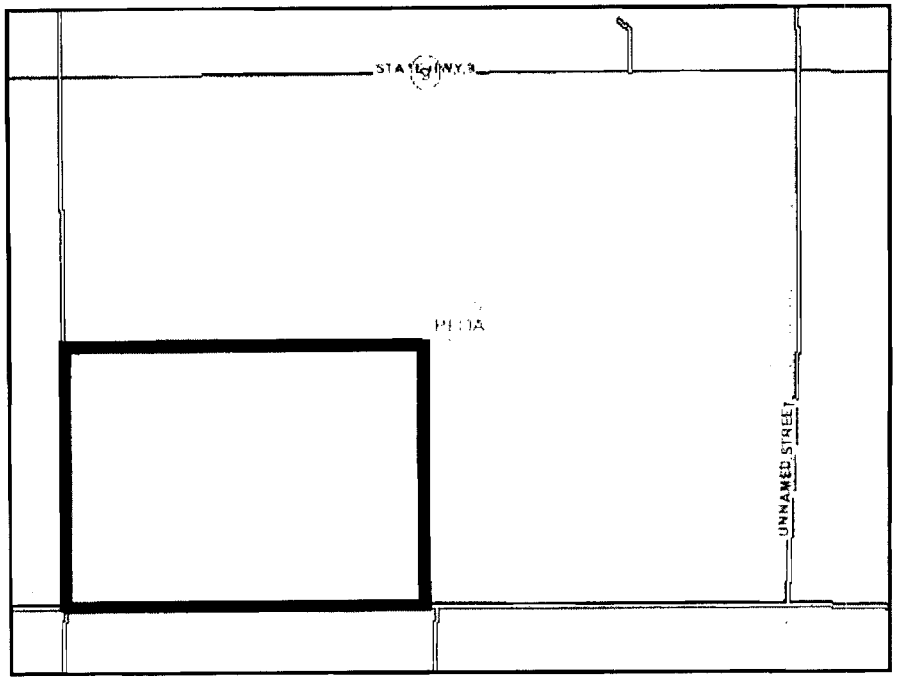
SCALE

LEGEND

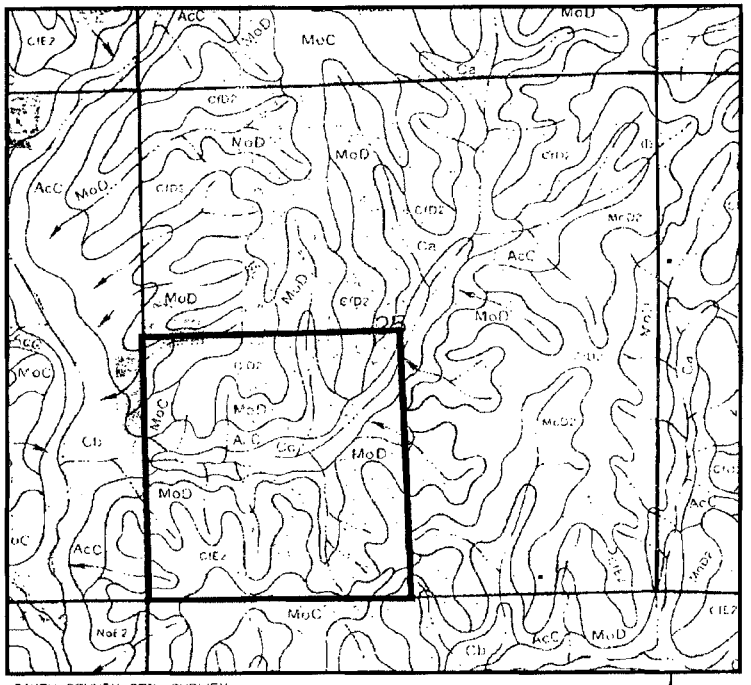
- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

FACILITY: M.G. Waldbaum Co.
Dixon County, Nebraska
SCALE: AS SHOWN
DRAWN BY: H CHECKED BY: H
SHEET NUMBER: DATE: 5-22-00
DESCRIPTION: AERIAL AND TOPOGRAPHIC MAPS

ESI



SOURCE NATIONAL WETLAND INVENTORY



DIXON COUNTY SOIL SURVEY

SOIL LEGEND

SYMBOL	NAME
JuA	JUDSON SILT LOAM, 0 TO 2 PERCENT SLOPE
MoB	MOODY SILTY CLAY LOAM, 1 TO 7 PERCENT SLOPE
OrB	ORTELLO FINE SANDY LOAM, 2 TO 5 PERCENT SLOPE

OWNER: DWAIN EKBERG

LEGAL DESCRIPTION: SW ¼ SEC. 25 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

FACILITY: M.G. Waldbaum Co.
Dixon County, Nebraska
SCALE: AS SHOWN
DRAWN BY: KH CHECKED BY: KH
SHEET NUMBER: DATE: 8-22-06
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS
ESI

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 3

Land Owner(s)

Dwain Eckberg
Rural Route 1 Box 145
Wakefield, NE 68784
(402) 287-2653

Legal Description

NE ¼ Sec 25 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
0 ft.	Silty Clay Loam	6-11 %	151	40-55 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation to be grown and agricultural practices utilized.

This application site will planted to corn and some alfalfa. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using an alfalfa-corn - soybean rotation.

Fertilizer applied for the 2007 crop year.

The west 25 acres of the application has been alfalfa the last two years and will receive a nitrogen credit of 100 lbs/ac for the cropping history, which will be included in determing the appropriate application rate of clarifier rinsate. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 3

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silty Clay Loam	Granular	Well Drained	None	Corn/Alfalfa	5/3

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 3 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 3 reveals the Sodium Adsorption Ratio (SAR) for the site is assumed to be low, suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for corn to be raised is 213 lbs N for a yield goal of 160 Bu/ac. Therefore the facility would be able to apply up to 10,250 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 3,400 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 160 Bu/ac of Corn		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	10,250	3,400	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and DWAIN EKBERG, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

NE 1/4	of	25	27 N,	5 (E or W)	DIXON	Co.	Irrigated or Dryland Acres 151
N 1/2 NW 1/4	of	34	27 N,	5 (E) or W)	DIXON	Co.	Irrigated or Dryland Acres 73
	of		N,	(E or W)		Co.	Irrigated or Dryland Acres
	of		N,	(E or W)		Co.	Irrigated or Dryland Acres
	of		N,	(E or W)		Co.	Irrigated or Dryland Acres
	of		N,	(E or W)		Co.	Irrigated or Dryland Acres

¼ or ½	Section	Township	Range

Total **irrigated** crop acres for clarifier rinsate application is 73 acres.

Total **dryland** crop acres for clarifier rinsate application is 151 acres.

[redacted]

4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 22 day of AUGUST 2006

Official of Production Facility

Landowner:

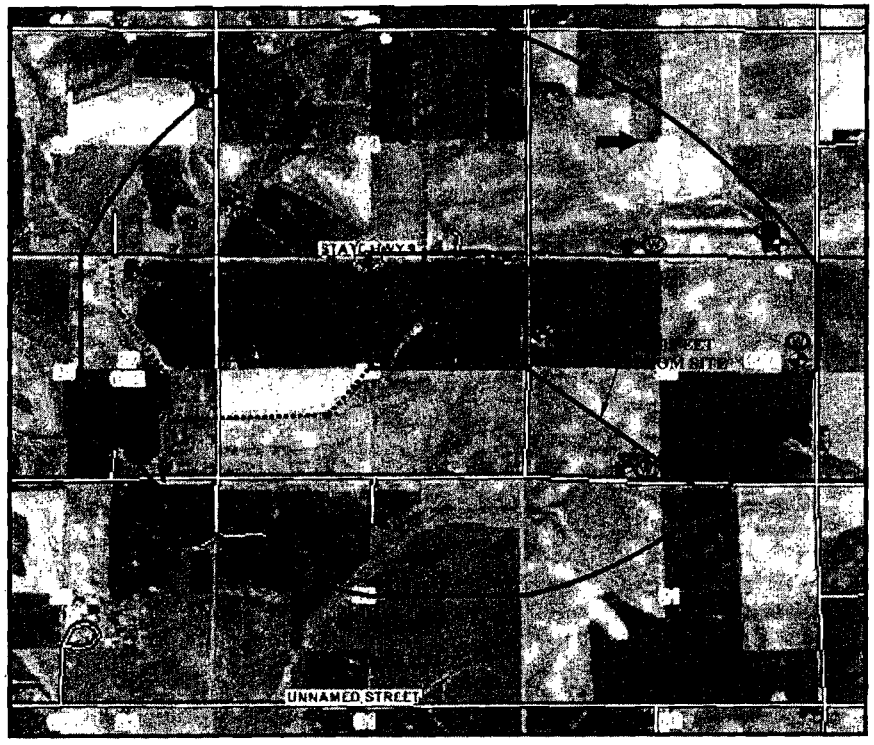
Address: 58540 859TH ROAD
WAKEFIELD, NE 68784

Phone: 402-287-2653

Landowner:

Address:

Phone:

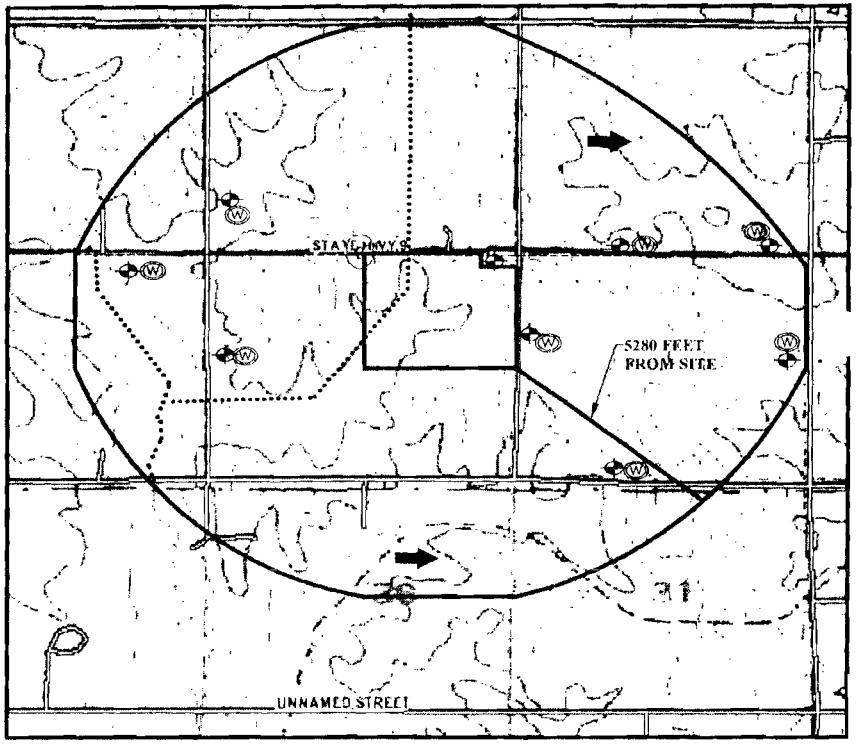


2590' 0' 2590'
SCALE

OWNER: DWAIN EKBERG

LEGAL DESCRIPTION: NE ¼ SEC. 25 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS AERIAL MAP DATED 4-16-1993



SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

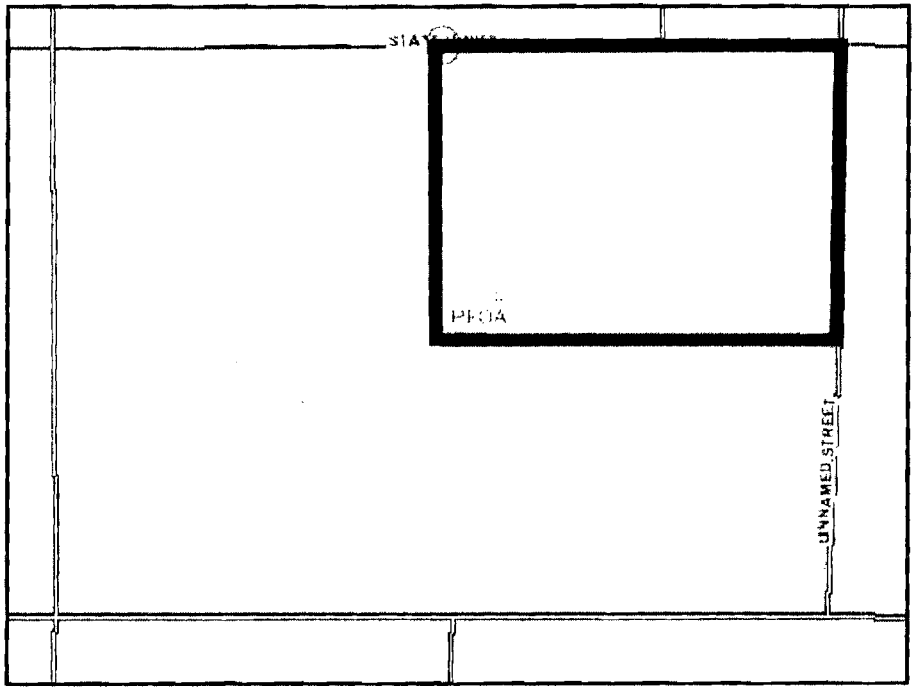
2590' 0' 2590'
SCALE

LEGEND

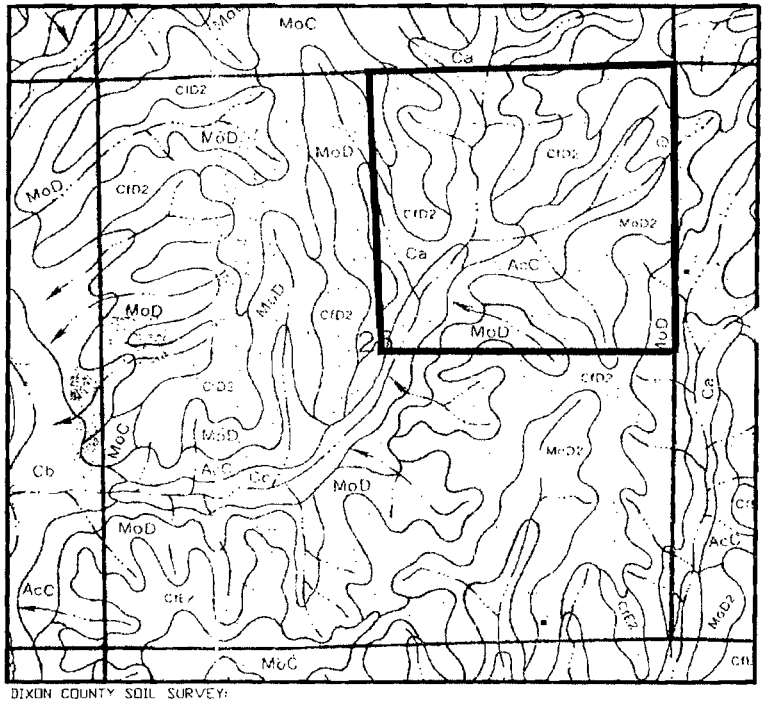
- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

FACILITY: M.G. Waldbaum Co.
Dixon County, Nebraska
SCALE: AS SHOWN
DRAWN BY: A.H. CHECKED BY: K.D.
SHEET NUMBER: DATE: 5-22-96
DESCRIPTION: AERIAL AND TOPOGRAPHIC MAPS

ESI



SOURCE NATIONAL WETLAND INVENTORY



DIXON COUNTY SOIL SURVEY:

SOIL LEGEND

SYMBOL	NAME
JuA	JUDSON SILT LOAM, 0 TO 2 PERCENT SLOPE
MoB	MOODY SILTY CLAY LOAM, 1 TO 7 PERCENT SLOPE
OrB	ORTELLO FINE SANDY LOAM, 2 TO 5 PERCENT SLOPE

OWNER: DWAIN EKBERG

LEGAL DESCRIPTION: NE ¼ SEC. 25 127N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

FACILITY: M.G. Waldbaum Co.
Dixon County, Nebraska
SCALE: AS SHOWN
DRAWN BY: KJD CHECKED BY: KJE
SHEET NUMBER: DATE: 8-22-06
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS
ESN

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 4

Land Owner(s)

Dwain Ekberg
Rural Route 1 Box 145
Wakefield, NE 68784
(402) 287-2653

Legal Description

NW ¼ Sec 34 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
400 ft.	Silty Clay Loam	0-6 %	153	21-44 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation being grown and agricultural practices utilized.

This application site will be planted to corn. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn - soybean rotation.

Fertilizer applied for the 2007 crop year.

The application site was previously planted to corn. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 4

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silty Clay Loam	Granular	Well Drained	None	Corn	5

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 4 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 4 reveals that the Sodium Adsorption Ratio (SAR) for the site is assumed to be low, suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for corn to be raised is 213 lbs N for a yield goal of 160 Bu/ac. Therefore the facility would be able to apply up to 10,250 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 3,400 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 160 Bu/ac of Corn		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	10,250	3,400	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and DWAIN EKBERG, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

NE 1/4	of	25,	27 N,	5 (E or W)	DIXON	Co.	Irrigated or Dryland Acres 151
N 1/2 NW 1/4	of	34,	27 N,	5 (E) or W)	DIXON	Co.	Irrigated or Dryland Acres 73
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres

Total irrigated crop acres for clarifier rinsate application is 73 acres.

Total dryland crop acres for clarifier rinsate application is 151 acres.

[redacted]

4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 22 day of AUGUST 2006

Official of Production Facility

Landowner:

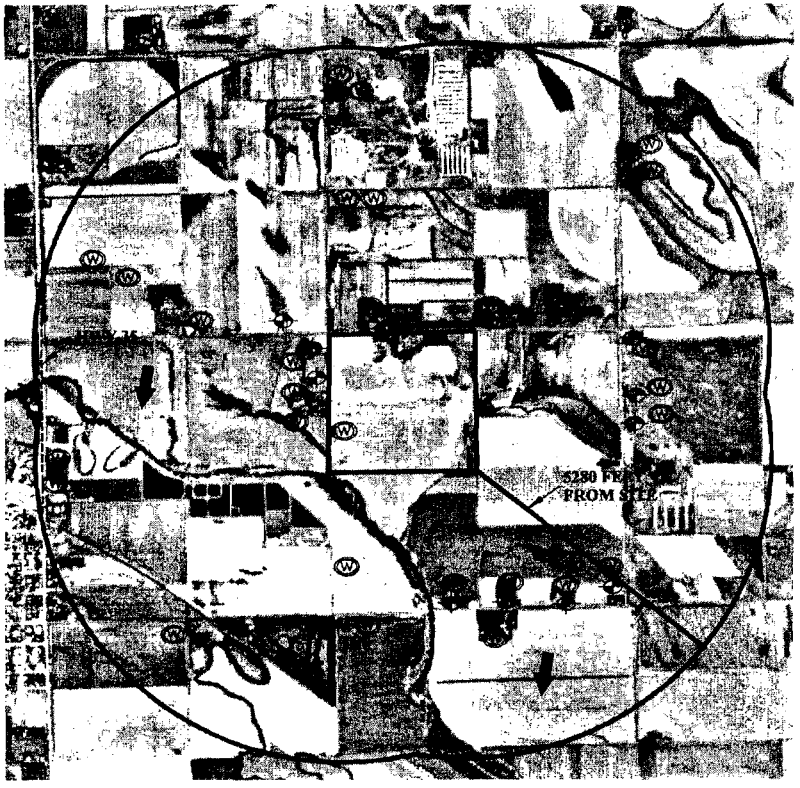
Address: 58540 859TH ROAD
WAKEFIELD, NE 68784

Phone: 402-287-2653

Landowner:

Address:

Phone:



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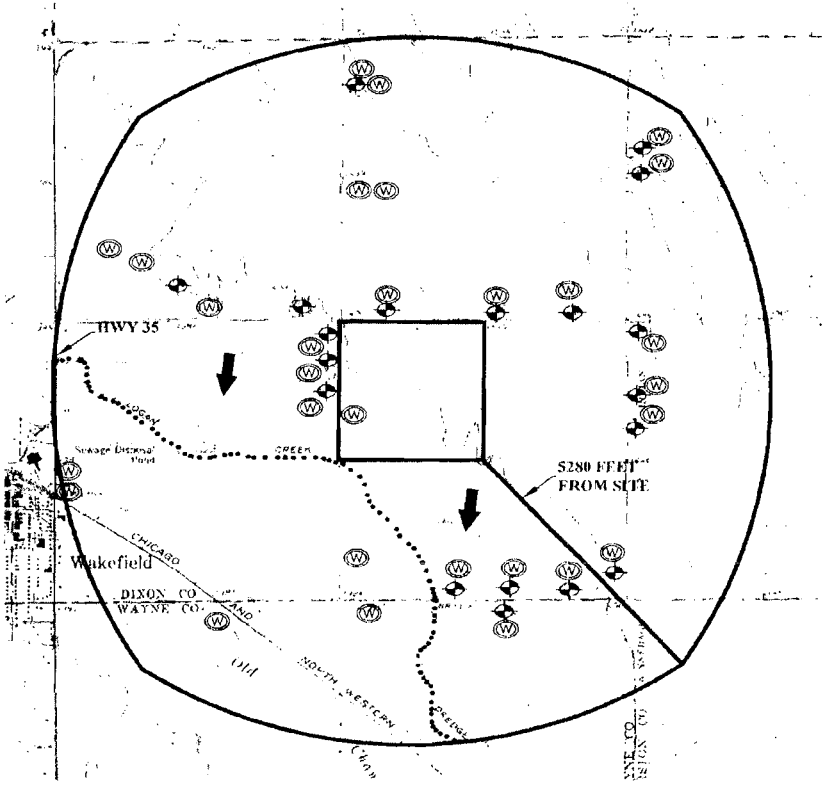
SCALE



2000' 0' 2000'
SCALE

OWNER: DWAINE EKBERG

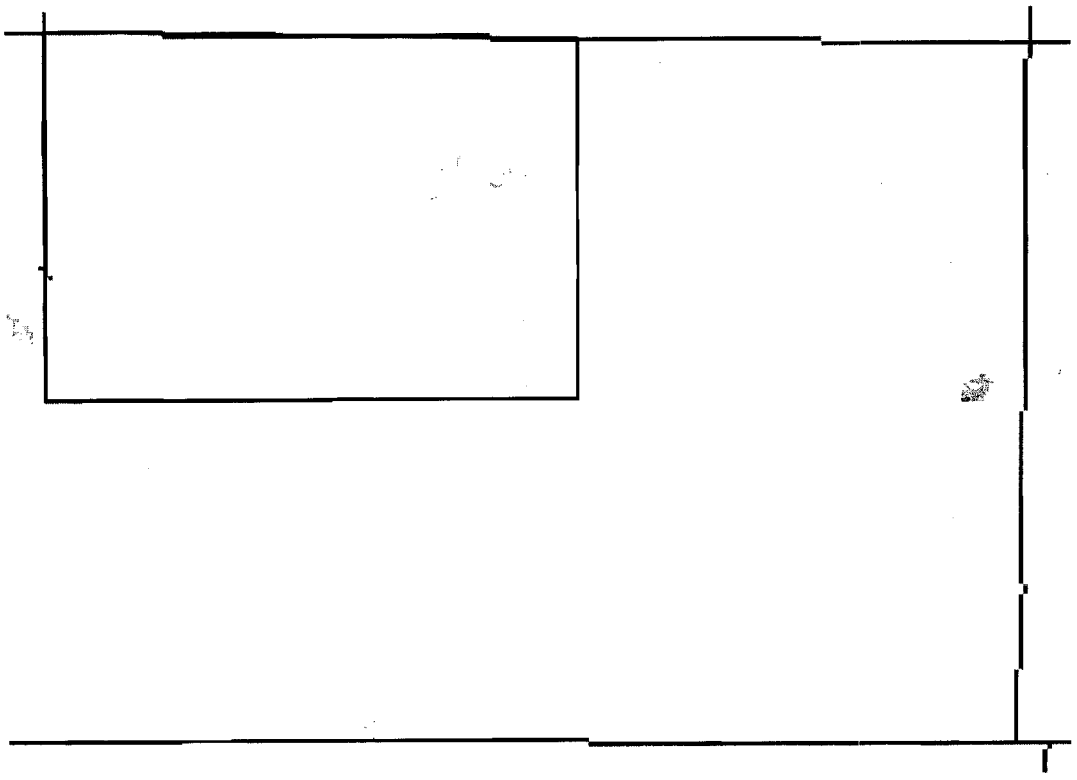
LEGAL DESCRIPTION: N ½ NW ¼ SEC. 34 T27N R5E DIXON COUNTY

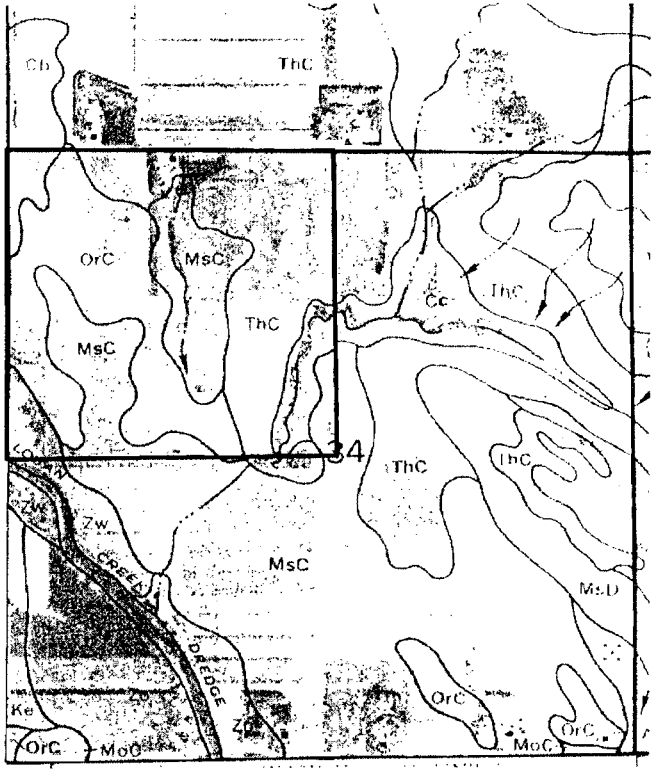
SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

LEGEND:
- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

FACILITY	VG Wauldbaum Co. Dixon County Nebraska
SCALE	AS SHOWN
DRAWN BY	AJL
CHECKED BY	AJL
SHEET NUMBER	
DATE	
DESCRIPTION	AERIAL AND TOPOGRAPHIC MAPS

ESI





SOURCE : NATIONAL WETLAND INVENTORY

OWNER: DWAINE EKBERG

LEGAL DESCRIPTION: N ½ NW ¼ SEC. 34 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

DIXON COUNTY SOIL SURVEY:

SOIL LEGEND

SYMBOL	NAME
Cb	CALCO SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPE
OrC	ORTELLO SANDY LOAM, 0 TO 2 PERCENT SLOPE
MsC	MOODY-LENSY COMPLEX, 2 TO 6 PERCENT SLOPE
ThC	THURMAN LOAMY SAND, 2 TO 6 PERCENT SLOPE
Cc	CALCO SILTY CLAY LOAM, WET, 0 TO 2 PERCENT SLOPE
Zw	ZOOK SILTY CLAY, 0 TO 2 PERCENT SLOPE

FACILITY: M.G. Wauldbaum
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: K.D. CHECKED BY: K.D.
SHEET NUMBER: DATE:
DESCRIPTION: WETLAND & SOIL SURVEY MAPS
ESI

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 5

Land Owner(s)

Lyle Ekberg	Dwain Ekberg
58485 859 Road	58540 859 Road
Wakefield, NE 68784	Wakefield, NE 68784
(402) 287-2107	(402) 287-2653

Legal Description

SE ¼ Sec 28 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
3000 ft.	Silty Clay Loam	0-3 %	157	21 to 44 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation to be grown and agricultural practices utilized.

This application site will be planted to soybeans. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn - soybean rotation.

Fertilizer applied for the 2007 crop year.

The application site was planted to corn in 2006. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 5

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silt Loam	Granular	Moderately Well Drained	None	Soybeans	5

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 5 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 5 reveals the Sodium Adsorption Ratio (SAR) for the site is assumed to be low, suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for soybeans to be raised is 167 lbs N for a yield goal of 45 Bu/ac. Therefore the facility would be able to apply up to 8,000 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 2,100 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 45 Bu/ac of Soybeans		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	8,000	2,100	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and LYLE AND DWAIN EKBERG, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

SE 1/4	of	28,	27 N,	5 (E) or W)	DIXON	Co.	Irrigated or Dryland Acres 157
¼ or ½		Section	Township	Range			
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of	,	N,	(E or W)		Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			

Total **irrigated** crop acres for clarifier rinsate application is 157 acres.

Total **dryland** crop acres for clarifier rinsate application is _____ acres.

[redacted]

4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 22 day of AUGUST 2006

Official of Production Facility

Landowner: [redacted]

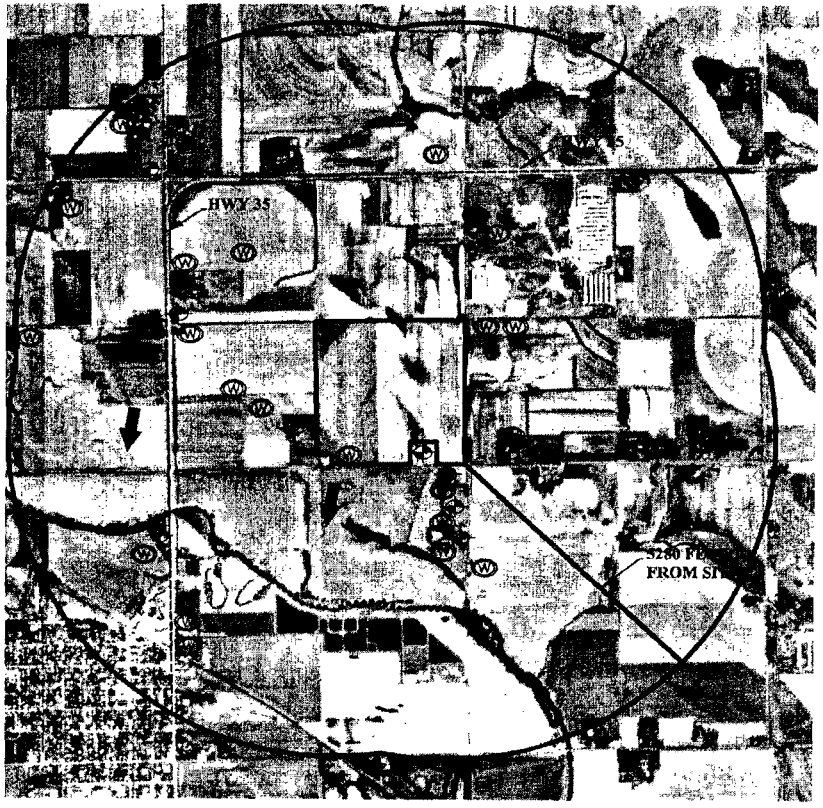
Address: 58540 859TH ROAD
WAKEFIELD, NE 68784

Phone: 402-287-2653

Landowner: [redacted]

Address: 584 055- 859 th Road
Wakefield Ne 68784

Phone: 402 287- 2107



2000' 0' 2000'

SCALE

OWNER: LYLE AND DWAIN EKBERG

LEGAL DESCRIPTION: SE ¼ SEC. 28 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7 1 1988

LEGEND

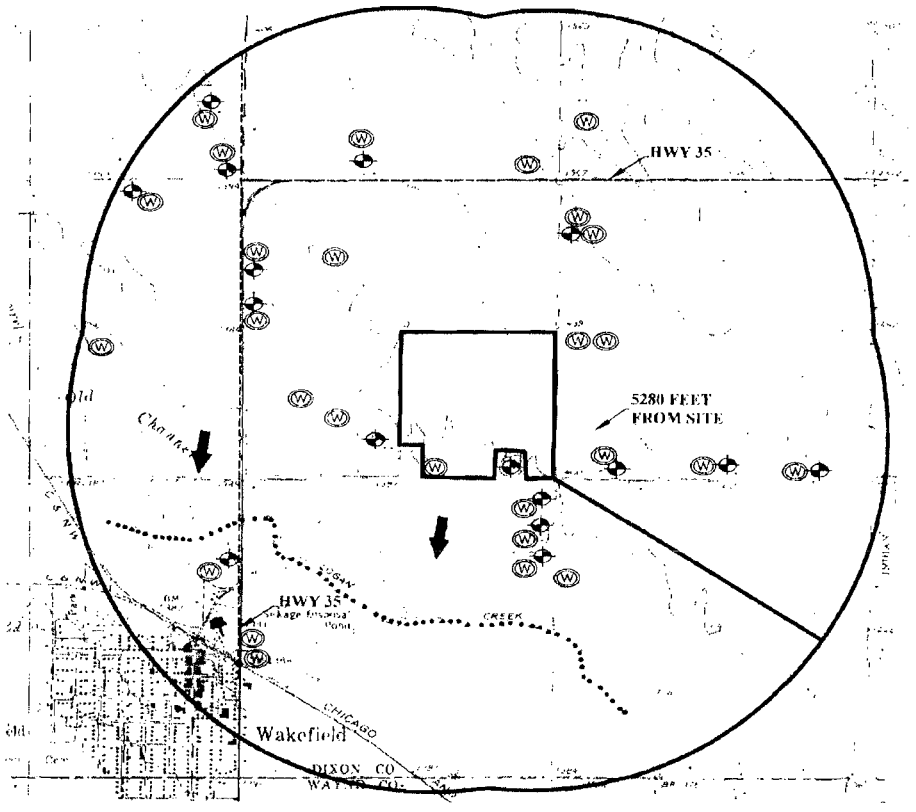
FARMSTEAD

HIGHWAY

WELL

SURFACE WATER

GENERAL DIRECTION OF GROUNDWATER FLOW

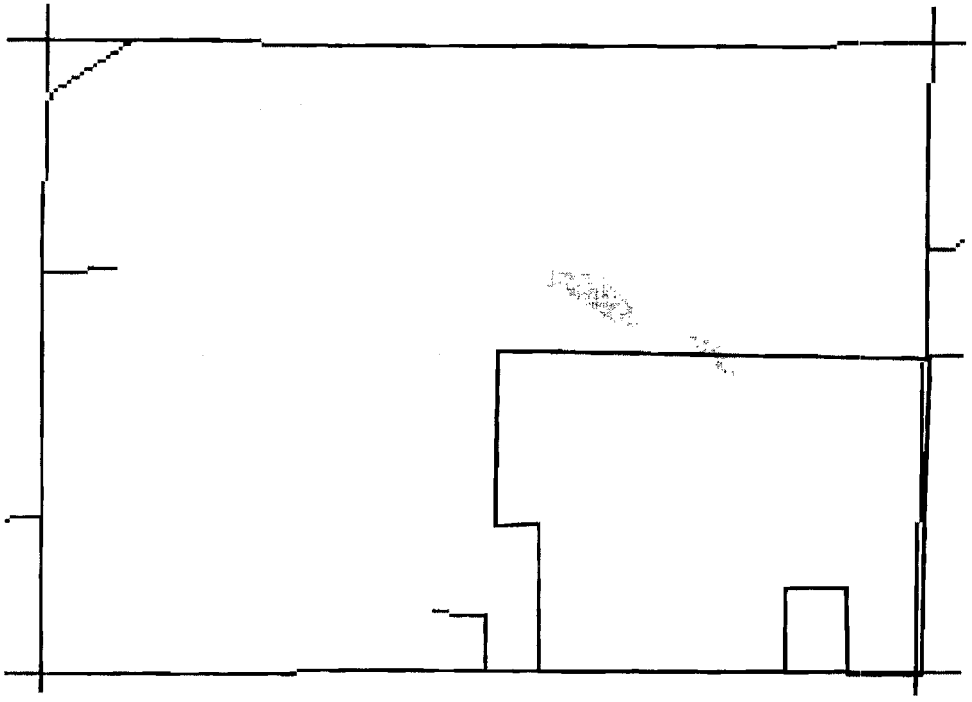


2000' 0' 2000'

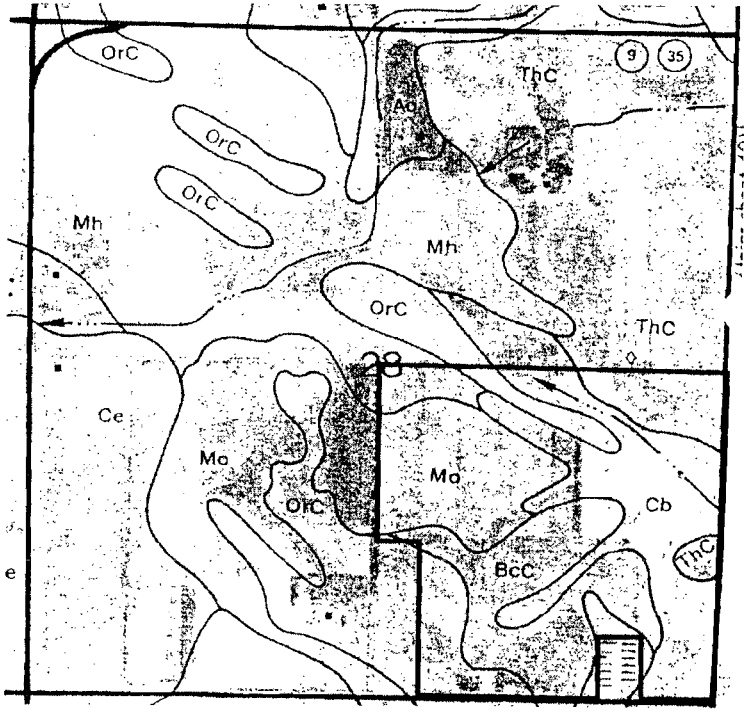
SCALE

FACILITY: M G WALDBAUM CO.
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: KH CHECKED BY: KH
SHEET NUMBER: DATE:
DESCRIPTION: AERIAL AND TOPOGRAPHIC MAPS

ESI



SOURCE . NATIONAL WETLAND INVENTORY



DIXON COUNTY SOIL SURVEY

SOIL LEGEND

SYMBOL	NAME
Mo	MOODY SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPE
Cb	CALCO SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPE
BcC	BAZILE SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPE
ThC	THURMAN LOAMY SAND, 2 TO 6 PERCENT SLOPE

OWNER: LYLE AND DWAIN EKBERG

LEGAL DESCRIPTION: SE ¼ SEC. 28 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

FACILITY: M G Waldbaum Co.
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: S.D. CHECKED BY: KH
SHEET NUMBER: DATE: 8-2-06
DESCRIPTION:
WETLAND AND SOIL SURVEY MAPS
ESI

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 6

Land Owner(s)

Donovan Bjorklund
85527 Highway 16
Wakefield, NE 68784
402-287-2906

Legal Description

Pts. E ½ Sec 17 T26N R5E Wayne County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
0 ft.	Silt Clay Loam	2-11 %	241	80-150 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation to be grown and agricultural practices utilized.

This application site will be planted to soybeans, cool season grasses and alfalfa. The yield used for application rate determination will be an average of Wayne County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn - soybean rotation.

Fertilizer applied for the 2007 crop year.

Part of the application site has been alfalfa the last three years and will receive a nitrogen credit of 100 lbs/ac for the cropping history, which will be included in determing the appropriate application rate of clarifier rinsate. Approximately 60 acres of the application site received poultry manure during the last winter. Additional commercial fertilizer maybe added on various parts of the application to ensure maximizing the yield potential of the site.

M.G. Waldbaum Company
Soil Management Evaluation for Site 6

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silty Clay Loam	Granular	Well Drained	None	Soybeans	6

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 6 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 6 reveals that the Sodium Adsorption Ratio (SAR) for the site is assumed to be low, suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for soybeans to be raised is 167 lbs N for a yield goal of 45 Bu/ac. Therefore the facility would be able to apply up to 8,000 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 2,100 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 45 Bu/ac of Soybeans		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	8,000	2,100	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and DONOVAN BJORKLUND, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

PTS. E 1/2	of	17	26 N,	5	(E) or W)	WAYNE Co.	Irrigated or Dryland Acres 241
¼ or ½		Section	Township	Range			
	of		N,		(E or W)	Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of		N,		(E or W)	Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of		N,		(E or W)	Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of		N,		(E or W)	Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			
	of		N,		(E or W)	Co.	Irrigated or Dryland Acres
¼ or ½		Section	Township	Range			

Total irrigated crop acres for clarifier rinsate application is _____ acres.

Total dryland crop acres for clarifier rinsate application is 241 acres.

[redacted]

4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 22 day of AUGUST 2006

Official of Production Facility

Landowner: [redacted]

Address: 85527 Highway #16
Wakefield, NE 68784

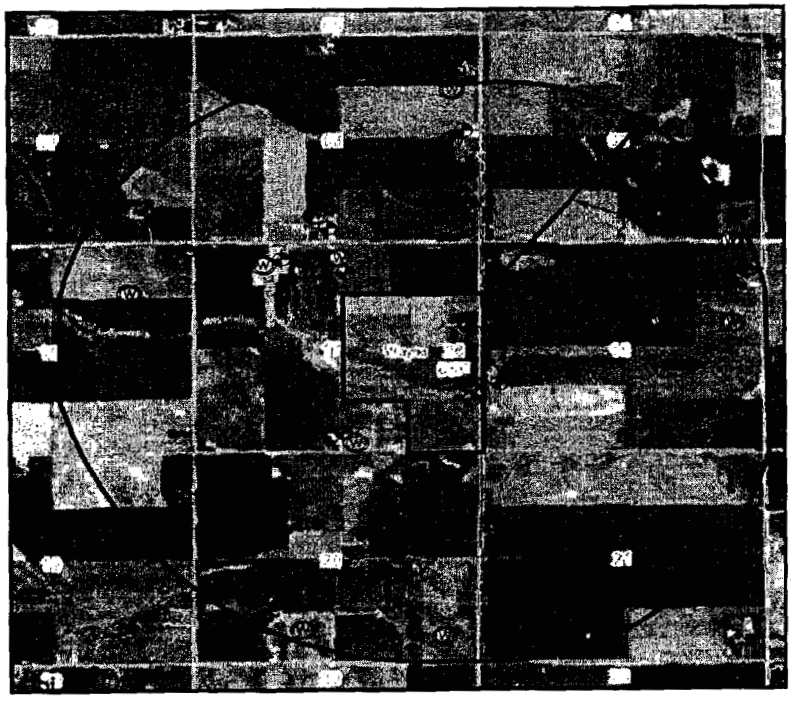
Phone: 402-287-2906

Landowner: _____

Address: _____

_____

Phone: _____



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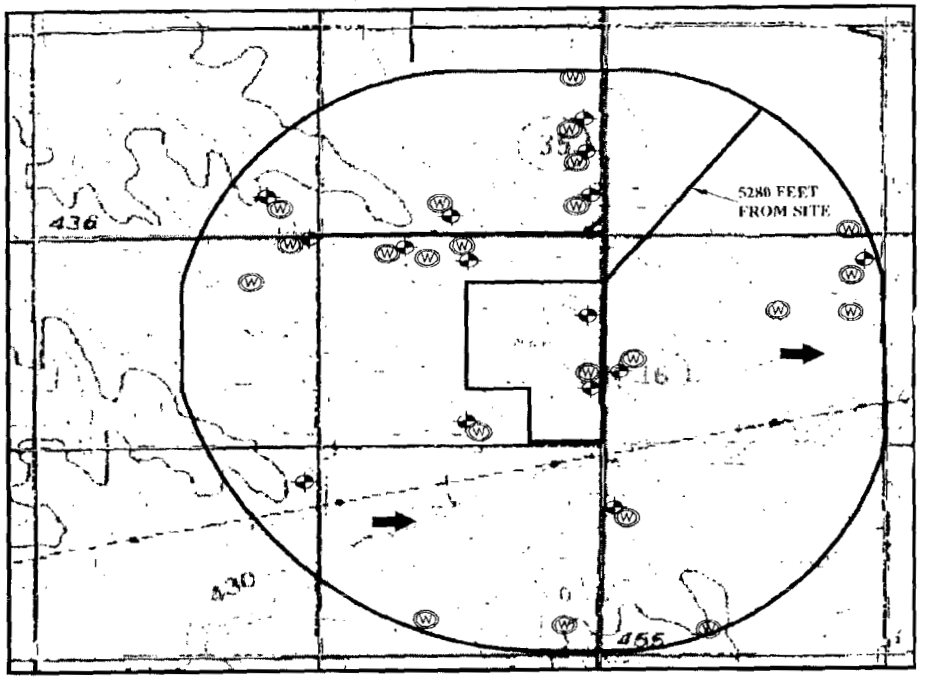


SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

2108' 0' 2108'

SCALE

OWNER: DONAVON BJORKLAND

LEGAL DESCRIPTION: PTS E ½ SEC 17 T26N R5E WAYNE COUNTY

SOURCE: TERRASERVER USGS AERIAL MAP DATED 4-16-1993

LEGEND:

- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

FACILITY: M G Waldbaum Co.
Dixon County Nebraska

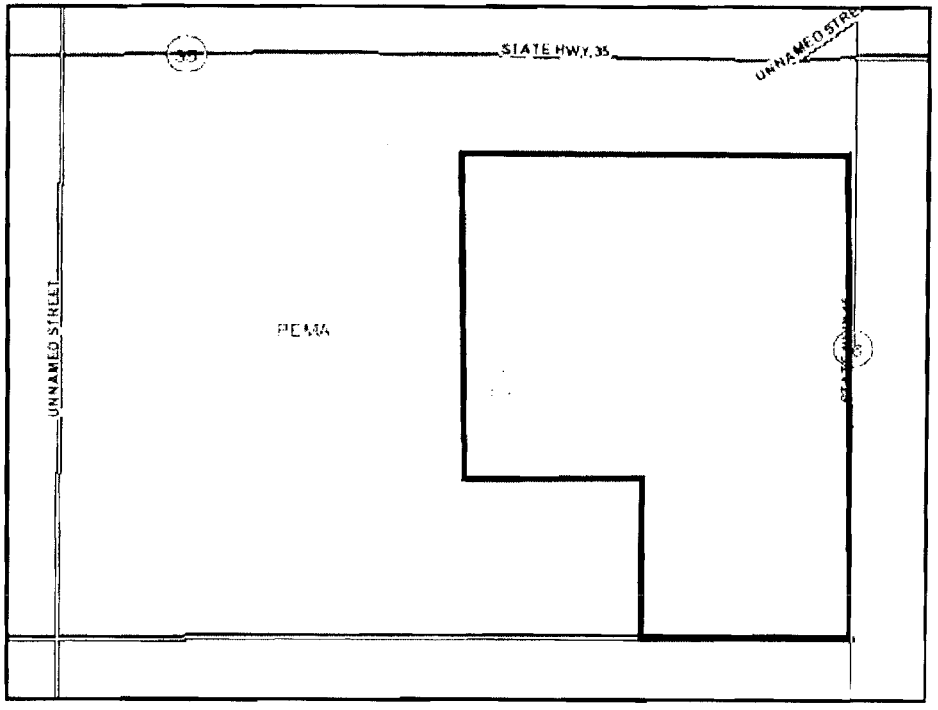
SCALE AS SHOWN

DRAWN BY: S.B. CHECKED BY: S.S.

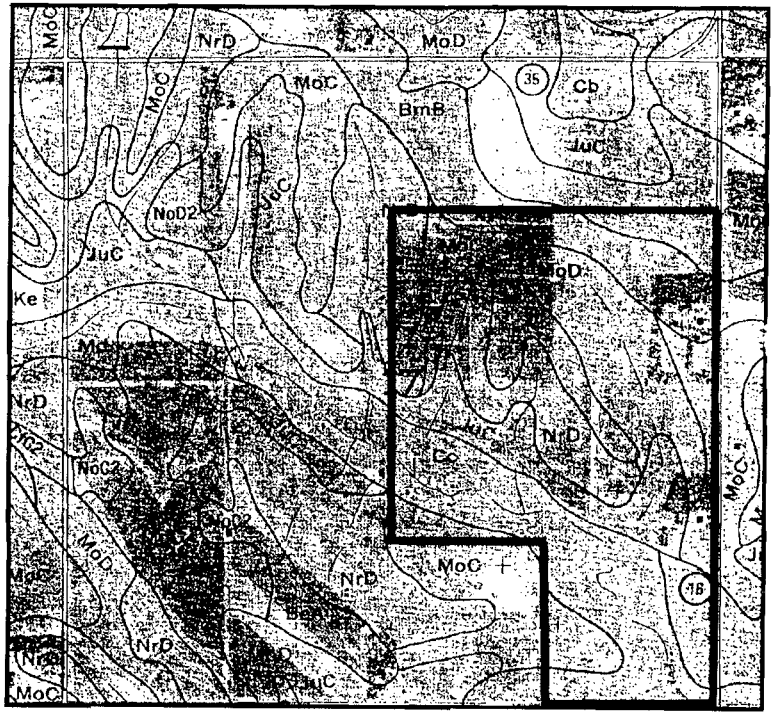
SHEET NUMBER: DATE: 5-1-96

DESCRIPTION: AERIAL AND TOPOGRAPHIC MAPS

ESI



SOURCE - NATIONAL WETLAND INVENTORY



WAYNE COUNTY SOIL SURVEY

SOIL LEGEND

SYMBOL	NAME
MoC	MOODY SILTY CLAY LOAM, 2 TO 7 PERCENT SLOPE
MoD	MOODY SILTY CLAY LOAM, 6 TO 11 PERCENT SLOPE
Co	CALCO SILT LOAM

OWNER: DONAVON BJORKLAND

LEGAL DESCRIPTION: Pts E ½ SEC. 17 T26N R5E WAYNE COUNTY

FACILITY: M G Wauldbaum Co.
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: KH CHECKED BY: KH
SHEET NUMBER: DATE: 9-06-06
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 7

Land Owner(s)

Lyle Boeckenhauer
Rural Route 1, Box 111
Wakefield, NE 68784
402-287-2580

Legal Description

N ½ Sec 22 T26N R5E Wayne County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
500 ft.	Silt Clay Loam	1-3 %	320	30-90 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation to be grown and agricultural practices utilized.

This application site will be planted to corn, soybeans and some alfalfa. The yield used for application rate determination will be an average of Wayne County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn - soybean rotation.

Fertilizer applied for the 2007 crop year.

The south east 70 acres of the application site has been alfalfa the last three years and will receive a nitrogen credit of 100 lbs/ac for the cropping history, which will be included in determing the appropriate application rate of clarifier rinsate. Part of the application site was planted to soybeans last year and will receive the appropriate nitrogen credit for the previous yield. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 7

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silty Clay Loam	Granular	Well Drained	None	Corn	5

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 7 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 7 reveals that the Sodium Adsorption Ratio (SAR) for the site is assumed low, suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for corn to be raised is 213 lbs N for a yield goal of 160 Bu/ac. Therefore the facility would be able to apply up to 10,250 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 3,400 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 160 Bu/ac of Corn		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	10,250	3,400	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and LYLE BOECKENHAUER, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

N 1/2 of 22, 26 N, 5 ([✓ E] or W) WAYNE Co. Irrigated or Dryland Acres 320
¼ or ½ Section Township Range

_____ of _____, _____ N, _____ (E or W) _____ Co. Irrigated or Dryland Acres _____
¼ or ½ Section Township Range

_____ of _____, _____ N, _____ (E or W) _____ Co. Irrigated or Dryland Acres _____
¼ or ½ Section Township Range

_____ of _____, _____ N, _____ (E or W) _____ Co. Irrigated or Dryland Acres _____
¼ or ½ Section Township Range

_____ of _____, _____ N, _____ (E or W) _____ Co. Irrigated or Dryland Acres _____
¼ or ½ Section Township Range

_____ of _____, _____ N, _____ (E or W) _____ Co. Irrigated or Dryland Acres _____
¼ or ½ Section Township Range

Total irrigated crop acres for clarifier rinsate application is 280 acres.
Total **dryland** crop acres for clarifier rinsate application is 40 acres.

[redacted]

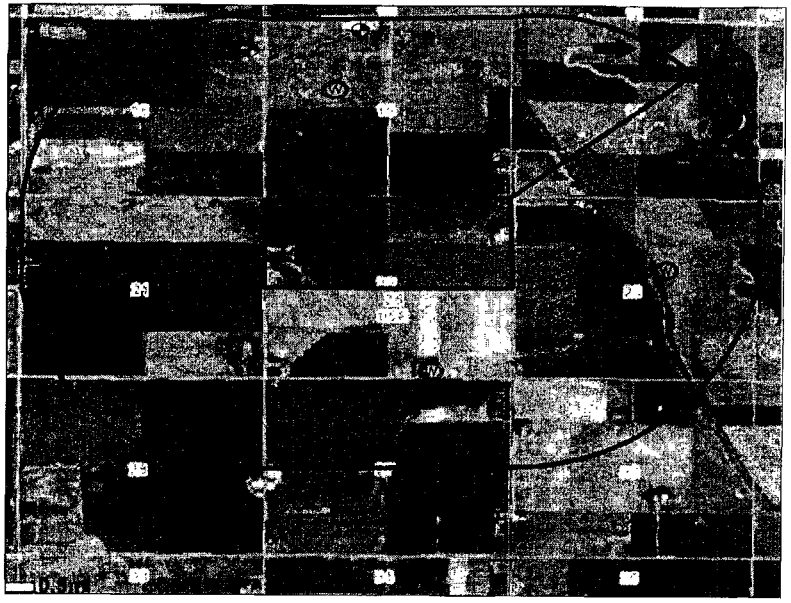
4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 22 day of AUGUST 2006

____
Official of Production Facility

Landowner: ________________
Address: RR1 BOX 111
WAKEFIELD, NE 68784
Phone: 402-287-2580

Landowner: ________________
Address: ________________
____
Phone: ________________



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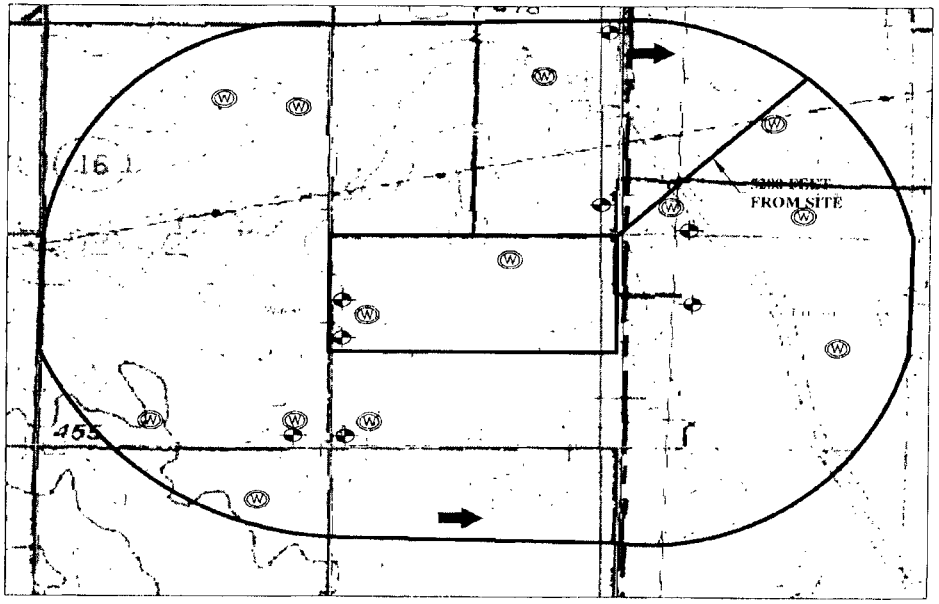


SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

2060' 0' 2060'
SCALE

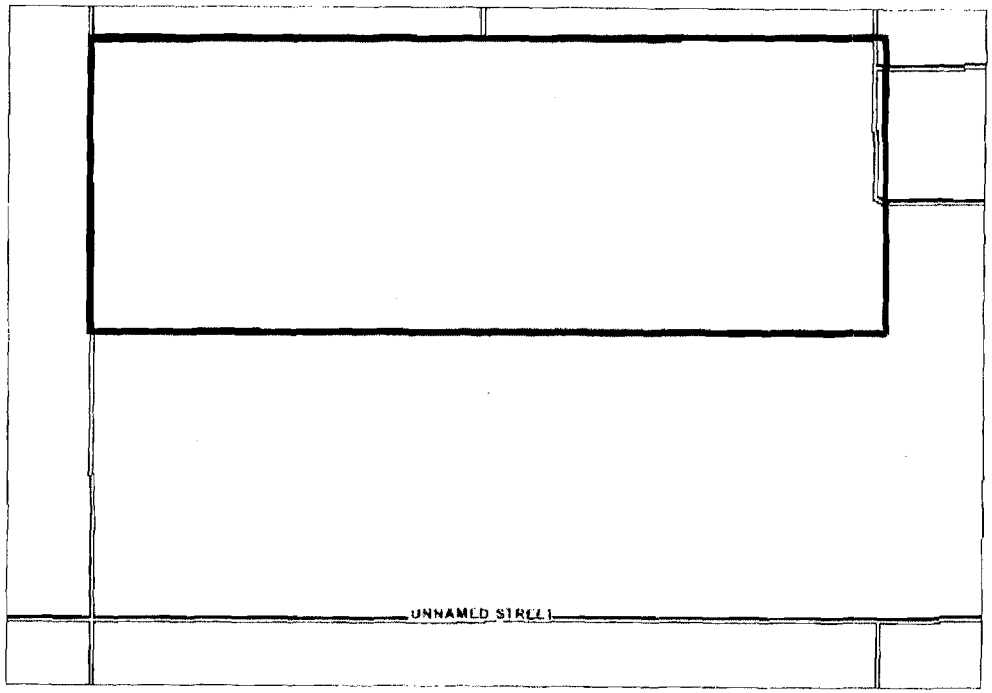
OWNER: LYLE BUECKENHAUER

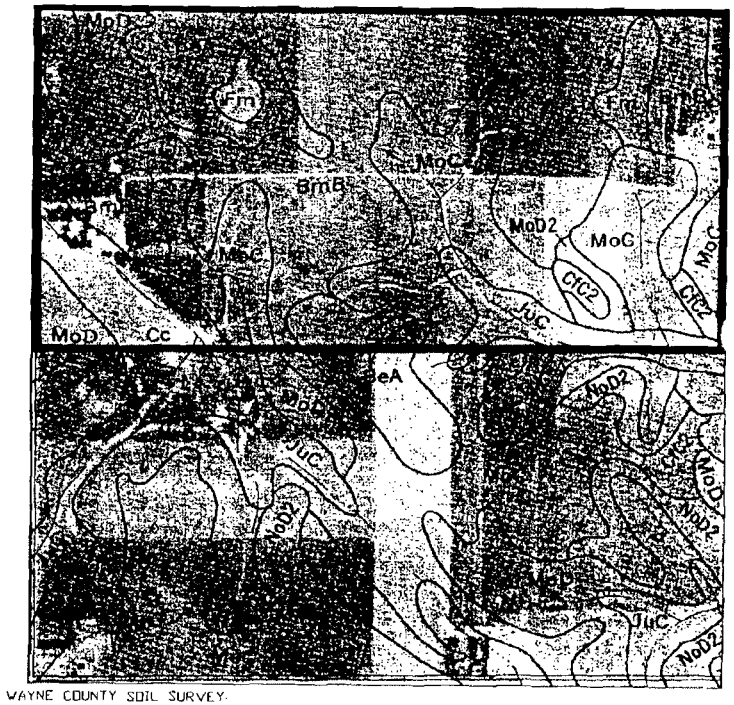
LEGAL DESCRIPTION: N ½ SEC. 22 T26N R5E WAYNE COUNTY

SOURCE: TERRASERVER USGS AERIAL MAP DATED 4-16-1993

LEGEND:
- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

FACILITY NAME: Waldbaum Co.
Dixon County, Nebraska
SCALE AS SHOWN
DRAWN BY: JJ CHECKED BY: EH
SHEET NUMBER: DATE:
DESCRIPTION: AERIAL AND TOPOGRAPHIC MAPS





WAYNE COUNTY SOIL SURVEY

SOURCE : NATIONAL WETLAND INVENTORY

OWNER: LYLE BOECKENHAUER

LEGAL DESCRIPTION: N ½ SEC. 22 T26N R5E WAYNE COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1983

SOIL LEGEND

SYMBOL	NAME
MoC	MOODY SILTY CLAY LOAM, 2 TO 7 PERCENT SLOPE
BmB	BELFORE-MOODY SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPE
BeA	BELFORE SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPE

FACILITY: M.G. Waldbaum Co.
Dixon County, Nebraska
SCALE AS SHOWN
DRAWN BY: K.B. CHECKED BY: K.H.
SHEET NUMBER: DATE: 8-20-06
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 8

Land Owner(s)

Thomas Gustafson
86025 586 Ave.
Wakefield, NE 68784
(402) 287-2436

Legal Description

S ½ NE ¼, SE ¼ Sec 22 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
800 ft.	Silty Clay Loam	2-11 %	228	21 to 44 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation to be grown and agricultural practices utilized.

This application site will be planted to soybeans and corn. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn – soybean rotation.

Fertilizer applied for the 2007 crop year.

The west half of the application site was soybeans in 2006 and will receive a nitrogen credit of 1 lbs/bu of grain harvested/ac. for the cropping history, which will be included in determing the appropriate application rate of clarifier rinsate. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 8

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silty Clay Loam	Prismatic	Well Drained	None	Corn	5

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 8 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 8 reveals that the Sodium Adsorption Ratio (SAR) for the site is assumed to be low (from a previous soil test), suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for corn to be raised is 213 lbs N for a yield goal of 160 Bu/ac. Therefore the facility would be able to apply up to 10,250 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 3,400 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 160 Bu/ac of Corn		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	10,250	3,400	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and THOMAS GUSTAFSON, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

S 1/2 NE 1/4, SE 1/4 (¼ or ½) of 22 (Section), 27 (Township) N, 5 (Range) ([✓ E] or W) DIXON Co. Irrigated or Dryland Acres 228

______ (¼ or ½) of ______ (Section), ______ (Township) N, ______ (Range) (E or W) ______ Co. Irrigated or Dryland Acres ______

______ (¼ or ½) of ______ (Section), ______ (Township) N, ______ (Range) (E or W) ______ Co. Irrigated or Dryland Acres ______

______ (¼ or ½) of ______ (Section), ______ (Township) N, ______ (Range) (E or W) ______ Co. Irrigated or Dryland Acres ______

______ (¼ or ½) of ______ (Section), ______ (Township) N, ______ (Range) (E or W) ______ Co. Irrigated or Dryland Acres ______

______ (¼ or ½) of ______ (Section), ______ (Township) N, ______ (Range) (E or W) ______ Co. Irrigated or Dryland Acres ______

Total irrigated crop acres for clarifier rinsate application is ______ acres.

Total dryland crop acres for clarifier rinsate application is 228 acres.

[redacted]

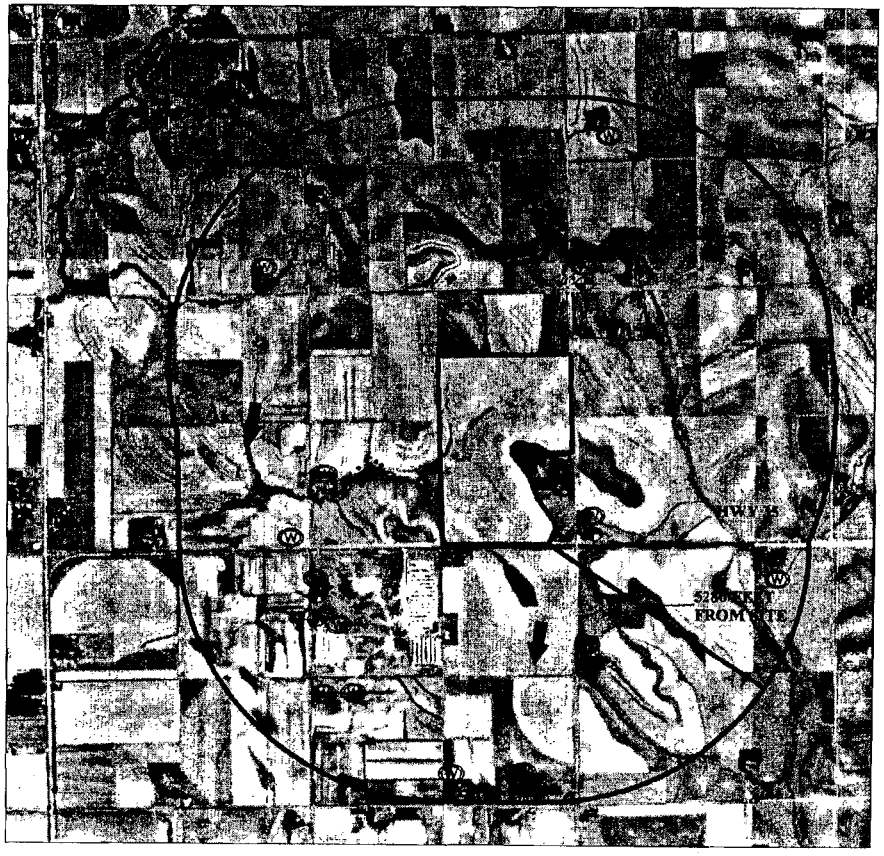
4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this ______ day of ______ 20 ______

______
Official of Production Facility

Landowner:
Address: 86025 58th Ave.
WakeField, NE 68784
Phone: 402-287-2436

Landowner: ______
Address: ______
______
Phone: ______



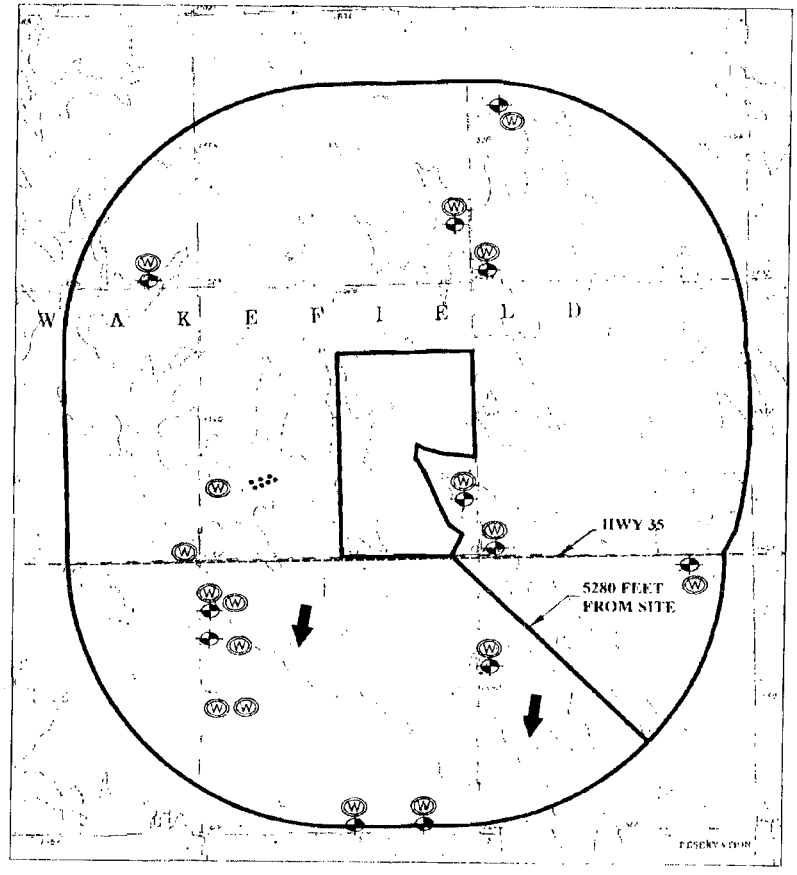
2300' 0' 2300'

SCALE

OWNER: THOMAS GUSTAFSON

LEGAL DESCRIPTION: S ½ NE ¼, SE ¼ SEC. 22 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988



LEGEND:

- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

2000' 0' 2000'

SCALE

FACILITY: W.G. Waldbaum Co.
Dixon County Nebraska

SCALE: AS SHOWN
DRAWN BY: EH CHECKED BY: KB
SHEET NUMBER DATE
DESCRIPTION
AERIAL AND TOPOGRAPHIC MAPS

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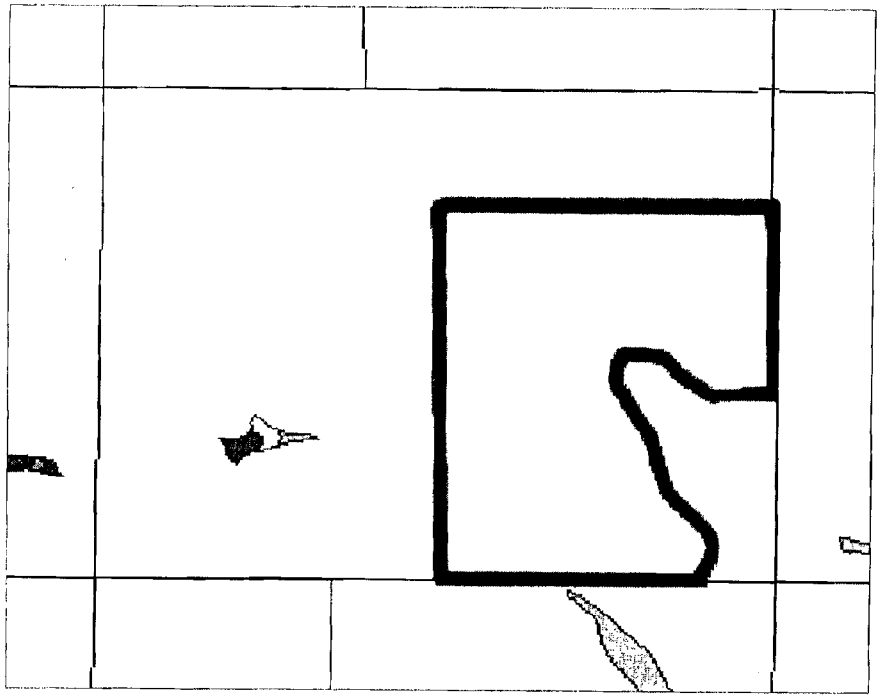
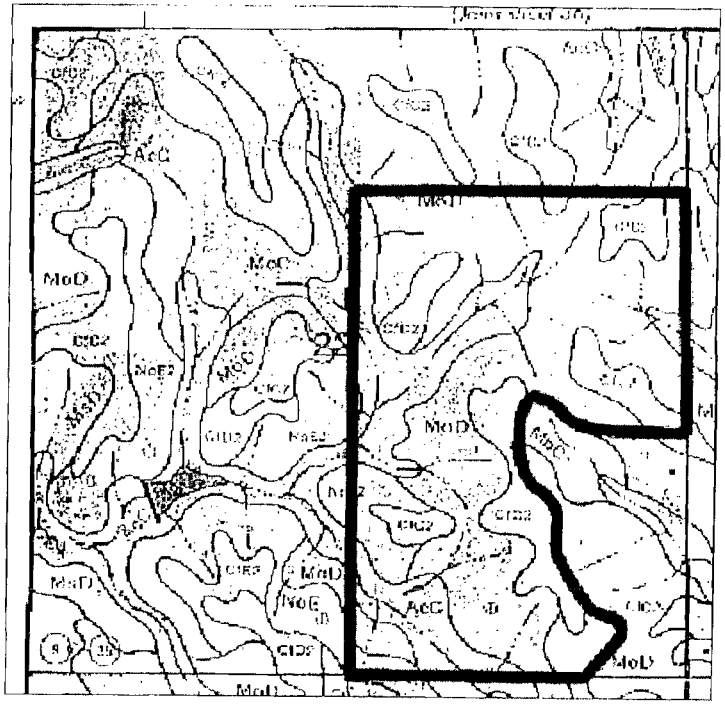


SOURCE : NATIONAL WETLAND INVENTORY



DIXON COUNTY SOIL SURVEY

SOIL LEGEND

SYMBOL	NAME
AcC	ALCESTER SILT LOAM, 2 TO 6 PERCENT SLOPE
CfC2	CROFTON SILT LOAM, 2 TO 6 PERCENT SLOPE, ERODED
CfD2	CROFTON SILT LOAM, 2 TO 6 PERCENT SLOPE, ERODED
MoC	MOODY SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPE
MoD	MOODY SILTY CLAY LOAM, 6 TO 11 PERCENT SLOPE

OWNER THOMAS GUSTAFSON

LEGAL DESCRIPTION. S ½ NL ¼, SE ¼ SEC. 22 T27N R5E DIXON COUNTY

SOURCE. TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

FACILITY: M G Waldbaum Co.
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: KB CHECKED BY: ND
SHEET NUMBER: DATE:
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS

M.G. Waldbaum Company
Clarifier Rinsate Application Information for Site 9

Land Owner(s)

Larry Baker
86165 Highway 9
Wakefield, NE 68784
(402) 287-2833

Legal Description

S ½ NE ¼; S ½ NW ¼; N ½ SW ¼ Sec 17 T27N R5E Dixon County

Distance to Surface Water	Soil Texture*	Slope*	Application Acres	Approximate Depth to ground-water
2,640 ft.	Silt Loam	0-15%	220	19 to 31 feet

Application Rate	Total nitrogen applied (available first year)
Approximately 2,500 gallons per acre	52.0 lbs/acre

Crop or vegetation to be grown and agricultural practices utilized.

This application site will be planted to soybeans, cool season grasses and some alfalfa. The yield used for application rate determination will be an average of Dixon County yield information for the most recent 3 years. Agricultural practices used on the site are generally a minimum tillage system using a corn – soybean-alfalfa rotation.

Fertilizer applied for the 2007 crop year.

The southeast part of the application site has been alfalfa the last three years and will receive a nitrogen credit of 100 lbs/ac for the cropping history, which will be included in determing the appropriate application rate of clarifier rinsate. The southeast part of the application site may receive effluent from the lagoons at Husker Pride and the clarifier rinsate application rate will be adjusted if effluent is applied prior to clarifier rinsate. Additional commercial fertilizer may be applied following the application of clarifier rinsate to ensure the application site yield potential is maximized.

M.G. Waldbaum Company
Soil Management Evaluation for Site 9

Soil Texture*	Soil Structure*	Soil Drainage*	Excess Lime Rating*	Proposed Crop	Salt Tolerance**
Silty Clay Loam	Prismatic	Well Drained	None	Corn	5

* = The dominant soil characteristic of the application area.

* * = Information obtained from Ward laboratories Inc., of Kearney NE.

Sodium (Alkali) Hazard Rating

The Sodium (Alkali) Hazard Rating for Site 9 is low.

Irrigation Method

This application site will utilize a pull type liquid manure applicator.

Clarifier Rinsate Assessment

The evaluation of plant assimilation characteristics of Site 9 reveals that the Sodium Adsorption Ratio (SAR) for the site is assumed to be low (from a previous soil test), suggesting that there are currently no sodium or salinity problems.

The application rate to be use at the site is based on the nitrogen availability of the clarifier rinsate being applied and the fertilizer recommendation for the proposed crop. The clarifier rinsate contains 20.7 lbs. nitrogen (TKN) /1000gals and the nitrogen removal for corn to be raised is 213 lbs N for a yield goal of 160 Bu/ac. Therefore the facility would be able to apply up to 10,250 gals /acre of clarifier rinsate to meet the nitrogen requirement of the crop. If we evaluate the application rate per year on other nutrients such as phosphorus or sodium, the facility could apply a maximum of 3,400 gals / acre per year (phosphorus) or 178,000 gals / acre per year (sodium) of clarifier rinsate before potentially causing a potential crop problem. Additional commercial fertilizer may be necessary to meet the facility's yield goal for the application site depending on the final application rate.

The table lists the maximum amount of clarifier rinsate per acre which can be applied without incurring a cropping injury or exceeding crop removal rates. In addition to the sodium or soluble salt accumulation as a potential problem, the soluble salt content could potentially reduce germination of the production crop if not applied correctly.

	Maximum Application Volume Per Acre for a yield goal of 160 Bu/ac of Corn		
Source	Nitrogen (N)	Phosphorus (P_2O_5)	Sodium (Na)
Clarifier	10,250	3,400	178,000

To prevent surface or groundwater contamination, the facility will continue to soil test the site. Application records will be maintained at the M.G. Waldbaum facility.

Oversight of Clarifier Rinsate Application

The application of clarifier rinsate will be done in cooperation with the owner or tenant of the property to ensure proper application of the clarifier rinsate. Kendall Bonenberger of Environmental Sciences, Inc. will meet with the owner or the tenant to determine the timing and amount of the clarifier rinsate application. M.G. Waldbaum Co. will operate the pull type liquid manure applicator.

Clarifier Rinsate Application Setbacks

Clarifier rinsate shall not be allowed to run-off the application site when applied. The application equipment used shall insure that no clarifier rinsate is sprayed onto or across any public right of way. A 30 foot vegetative buffer strip shall be maintained between the application site and any public right of way. A 300 foot separation from an inhabited dwelling shall be maintained. If the clarifier rinsate is incorporated with the soil and the owner/occupant of the dwelling gives written consent to such, the separation may be reduced to 200 feet. A 300 foot separation from any potable water supply and a 1000 foot separation from a public water supply shall be maintained. A 200 foot separation to any waters of the State such as a stream or wetland with an exception that if a 30 foot vegetative buffer strip is maintained between the site and the surface water, the separation may be reduced to 100 feet. Beginning January 1, 2007 the facility will conduct phosphorus assessments on each application site prior to application. Depending on the final phosphorus assessment rating, clarifier rinsate may or may not be applied to an application site.

Soil Sampling and Testing Procedures

Soil tests are done prior to application on application sites, which will receive clarifier rinsate to a minimum soil depth of 8 inches and maximum depth of 48 inches depending on the cropping rotation. A qualified individual or company currently does soil sampling and a qualified laboratory does the soil chemical analysis. The soil chemical analysis includes nitrate-N, phosphorus, and potassium at a minimum. The facility will maintain soil test results for the application sites for a minimum of 5 years. Soil fertility recommendations are made using information obtained from the University of Nebraska or Dr. Ray Ward of Ward Laboratories, Inc. Yield goals used in the fertility recommendations are based on three to five year yield averages for that specific field or by an owner's choice. Maps of the application sites and their legal descriptions are included in this land application plan.

Soil sampling is used by the facility as another tool to ensure proper nutrient management and good crop production. Soil sampling is used by the facility on an annual basis to monitor phosphorus accumulation in the soil and also to determine the proper application rate and location. Soil sampling is done prior to applications and the minimum soil sampling depth is 0-8 inches for all application areas. Soil sampling shall be consistent year to year and sampling dates will be stated on all reports and sampling results.

One soil sampling technique used to select sampling points is a zig-zag pattern. The sub-samples are collected at points where cropping practices and land use are similar, and which are not drainage ditches or other topographic positions which would have caused significant variation in the sample results. The soil samples are collected on the application ground that maybe used to a soil depth of 0-8 inches using a hand or hydraulic probe. The sub-samples of each soil depth collected are then thoroughly mixed. A composite sample for each sample depth represents approximately 40 acres.

Another soil sampling technique that maybe used to select sampling points is grid sampling. The application area is mapped using a global positioning system and sample points are set up on

a grid of 2-10 acres. The soil samples are collected on the application ground that maybe used to a soil depth of 0-6 or 0-8 inches using a hand or hydraulic probe. The sub-samples collected are thoroughly mixed.

The composite samples are then placed in sample bags supplied by a qualified laboratory. The composite samples are then delivered to the laboratory three to four days following collection. Sampling maps indicate sample sites and labels for designated area are part of the record keeping. The laboratory determines the chemical analysis methods used. Generally, the methods used for phosphorus are either Bray P-1 or Mehlich M-2 (high excess lime soils).

Records that will be maintained during 2007 crop season

- A daily record of the amount and location of the clarifier rinsate applied
- The number of acres to which the clarifier rinsate was applied
- The application rate in gallons per acre
- A review of crop and soil conditions to determine if the clarifier rinsate is having long-term detrimental effects to the soil characteristics
- Soil testing results conducted following the crop season
- A discussion of any concerns or problems encountered during the preceding year
- The location of all application sites (i.e. either a map or legal description)

CLARIFIER RINSATE APPLICATION AGREEMENT

This agreement is made between M.G. Waldbaum Co., here after known as the "Production Facility" and LARRY BAKER, here after known as the "Owner" in consideration of their mutual promises as follows:

1. The Production Facility requires access to spread clarifier rinsate.
2. Owner is the owner of the following described real estate, to wit:

: 1/2 NE 1/4, S1/2 NW 1/4, N1/2 SW1/4 (¼ or ½) of 17 (Section), 27 (Township) N, 5 (Range) ([✓ E] or W) DIXON Co. Irrigated or Dryland Acres 220

_____ (¼ or ½) of _____ (Section), _____ (Township) N, _____ (Range) (E or W) _____ Co. Irrigated or Dryland Acres _____

_____ (¼ or ½) of _____ (Section), _____ (Township) N, _____ (Range) (E or W) _____ Co. Irrigated or Dryland Acres _____

_____ (¼ or ½) of _____ (Section), _____ (Township) N, _____ (Range) (E or W) _____ Co. Irrigated or Dryland Acres _____

_____ (¼ or ½) of _____ (Section), _____ (Township) N, _____ (Range) (E or W) _____ Co. Irrigated or Dryland Acres _____

_____ (¼ or ½) of _____ (Section), _____ (Township) N, _____ (Range) (E or W) _____ Co. Irrigated or Dryland Acres _____

Total **irrigated** crop acres for clarifier rinsate application is _____ acres.

Total **dryland** crop acres for clarifier rinsate application is 220 acres.

[redacted]

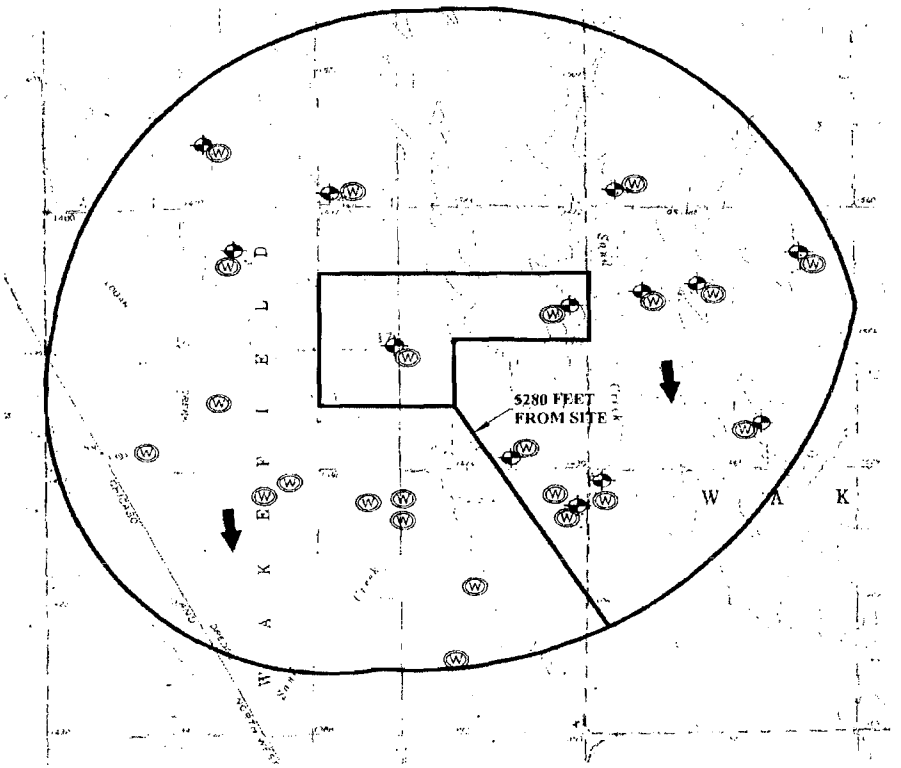
4. Owner consents to Production Facility applying clarifier rinsate on said premises at such times as are mutually agreeable by both parties. Further, the Owner may specify the location on the premises in which to apply rinsate.
5. The Production Facility will make available a copy of the clarifier rinsate nutrient analysis for the Owner.
6. Access to the above mentioned real estate will be limited to clarifier rinsate application only.
7. This agreement shall continue from year to year without further renewal, except if either party desires to cancel this Agreement they shall do so in writing on or before September 1, of any given year.

Dated this 22 day of Aug, 2006

_____
Official of Production Facility

Landowner: _____
Address: 86165 HIGHWAY 9
WAKEFIELD, NE 68784
Phone: 402-287-2833

Landowner: _____
Address: _____
_____
Phone: _____



OWNER: LARRY BAKER

LEGAL DESCRIPTION: S ½ NE ¼; S ½ NW ¼; N ½ SW ¼ SEC. 17 T27N R5E DIXON COUNTY

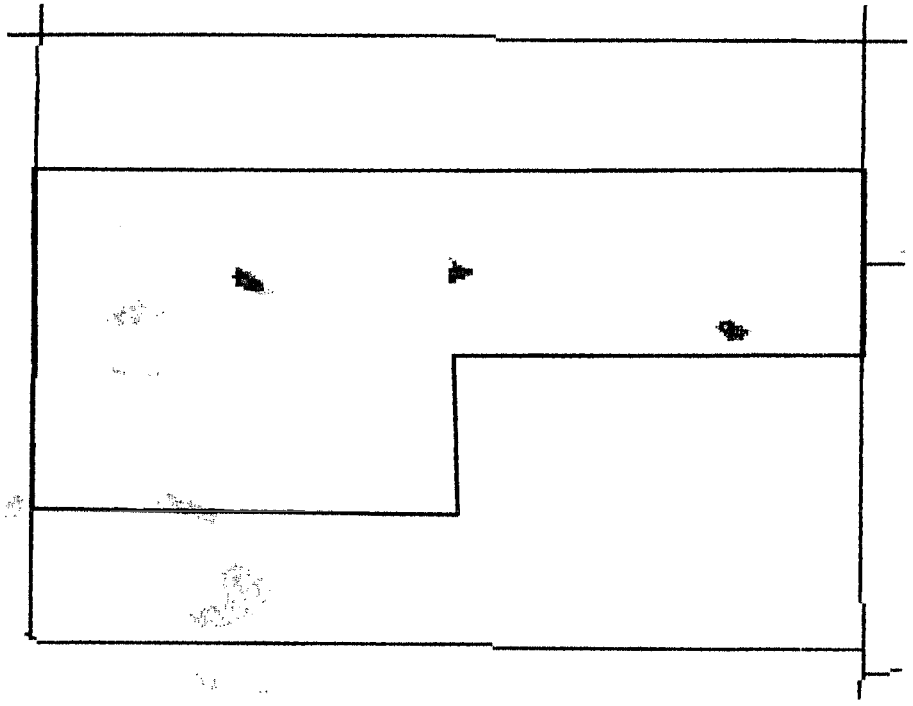
SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

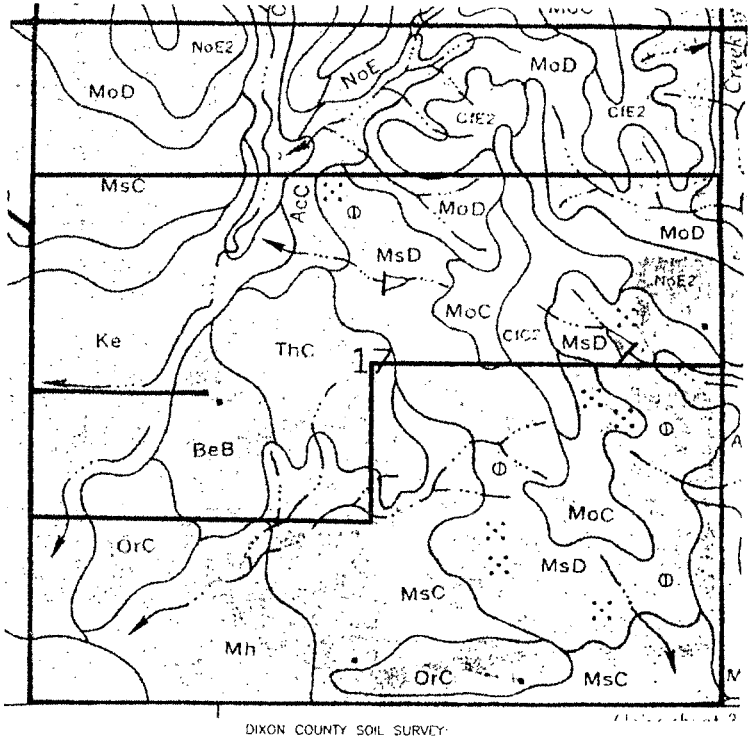
LEGEND:

- FARMSTEAD
- HIGHWAY
- WELL
- SURFACE WATER
- GENERAL DIRECTION OF GROUNDWATER FLOW

FACILITY: M.G. Waldbaum Co.
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: KH CHECKED BY: KH
SHEET NUMBER DATE:
DESCRIPTION: AERIAL AND TOPOGRAPHIC MAPS

ESI





SOURCE : NATIONAL WETLAND INVENTORY

OWNER LARRY BAKER

LEGAL DESCRIPTION: S ½ NE ¼, S ½ NW ¼; N ½ SW ¼ SEC 17 T27N R5E DIXON COUNTY

SOURCE: TERRASERVER USGS TOPOGRAPHIC MAP DATED 7-1-1988

DIXON COUNTY SOIL SURVEY:

SOIL LEGEND

SYMBOL	NAME
Ke	KENNEBEC SILT LOAM, 0 TO 2 PERCENT SLOPE
BeB	BLENDON SANDY LOAM, 0 TO 3 PERCENT SLOPE
OrC	ORTELLO SANDY LOAM, 2 TO 6 PERCENT SLOPE
MsD	MOODY-LEISE COMPLEX, 6 TO 11 PERCENT SLOPE
ThC	THURMAN LOAMY SAND, 2 TO 6 PERCENT SLOPE
MsC	MOODY-LEISE COMPLEX, 2 TO 6 PERCENT SLOPE
AcC	ALCESTER SILT LOAM, 2 TO 6 PERCENT SLOPE
CfC2	CROFTON SILT LOAM, 2 TO 6 PERCENT SLOPE, ERODED
NoE2	NORA SILT LOAM, 11 TO 15 PERCENT SLOPE, ERODED

DIXON COUNTY SOIL SURVEY:

SOIL LEGEND

SYMBOL	NAME
MsC	MOODY-LEISY COMPLEX, 6 TO 11 PERCENT SLOPE
MoD	MOODY SILTY CLAY LOAM, 6 TO 11 PERCENT SLOPE
MoC	MOODY SILTY CLAY LOAM, 2 TO 6 PERCENT SLOPE

FACILITY: M.G. Waldbaum Co.
Dixon County Nebraska
SCALE: AS SHOWN
DRAWN BY: J.D. CHECKED BY: J.D.
SHEET NUMBER: DATE:
DESCRIPTION: WETLAND AND SOIL SURVEY MAPS

ESI